The Unesco Courier

A window
open on the world

Korea

'Land of the morning calm'

TREASURES
OF
WORLD ART

137

Republic
of Korea

Match of miniatures

These stoneware figurines of a man (8.2 cms high) and a woman (5.3 cms) were fashioned in the 5th or 6th century A.D., during the period of the Silla dynasty in Korea. Silla potters displayed acute powers of observation and sometimes a puckish sense of humour when creating such clay figurines and sculpted ceramic vessels. As well as depicting the human form, they also portrayed animals such as rabbits, dogs, cows, pigs, tigers, tortoises and snakes.

Photo © Kim Tae-byok, Seoul

DECEMBER 1978 31st YEAR

PUBLISHED IN 19 LANGUAGES

English, French, Spanish, Russian, German, Arabic, Japanese, Italian, Hindi, Tamil, Hebrew, Persian, Dutch, Portuguese, Turkish, Urdu, Catalan, Malaysian, Korean

Published monthly by UNESCO
The United Nations
Educational, Scientific
and Cultural Organization

Sales and Distribution Offices
Unesco, Place de Fontenoy, 75700 Paris

Subscription rates
1 year : 35 French Francs
2 years: 58 FF
Binder for a year's issues: 24 FF

The **UNESCO COURIER** is published monthly, except in August and September when it is bi-monthly (11 issues a year). For list of distributors see inside back cover.
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The Unesco Courier is produced in microform (microfilm and/or microfiche) by: (1) University Microfilms (Xerox). Ann Arbor, Michigan 48100, U.S.A.; (2) N.C.R. Microcard Edition, Indian Head, Inc., 111 West 40th Street, New York, U.S.A.; (3) Bell and Howell Co., Old Mansfield Road, Wooster, Ohio 44691, U.S.A.

The Unesco Courier is indexed monthly in the Readers' Guide to Periodical Literature, published by H.W. Wilson Co., New York, and in Current Contents - Education, Philadelphia, U.S.A.

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All correspondence should be addressed to the Editor-in-Chief in Paris.

ISSN 0041-5278
N° 11 - 1978 - OPI - 78 - 1 - 349 - A

page

4 **SPIRITUAL LANDSCAPE OF TRADITIONAL KOREA**
by Chang Byung-kil

11 200 years before Gutenberg
THE MASTER PRINTERS OF KORYO
by Ch'on Hye-bong

13 **THE KOREAN ALPHABET—**
A GRAPHIC PORTRAIT OF THE HUMAN VOICE
by Lee Ki-mun

14 **ORIENTAL OCTET**

16 The wall paintings of Koguryo :
A FRESCO OF DAILY LIFE

19 **KOREAN PAINTING—**
AN ORIGINAL CONTRIBUTION TO ORIENTAL ART
by Ch'oe Sun-u

22 **THE UNICORN, THE PHOENIX AND THE FLYING HORSE**
Recent discoveries from three ancient royal tombs
by Kim Won-yong

31 **IMMORTAL CLAY**
The traditional pottery of Korea
by Chong Yang-mo

32 **THE STONES OF SOKKURAM**
A cornucopia of Buddhist sculpture
in a 1200-year-old temple-grotto
by Hwang Su-young

35 **A PRACTICAL APPROACH TO SCIENCE**
by Jeon Sang-woon

38 **SIX GOOD TURNS FROM THE TURTLE**
by Zo Za-Yong

40 **PAINTINGS MAGIC AND MUNDANE**
Folk art with a wealth of significance for everyday life
by Zo Za-Yong

44 **AN AUREOLE OF LEGEND ON A GOLDEN CROWN**
by Li Ogg

50 **UNESCO'S GENERAL CONFERENCE**

2 **TREASURES OF WORLD ART**
REPUBLIC OF KOREA: Match of miniatures

Photo © Han Sok-hong, National Museum of Korea, Seoul

Cover

To its own people Korea is best known as *Chosun,* often translated as "land of the morning calm". The Western name, *Korea,* is derived from the Koryo dynasty which ruled the country from 918 to 1392 (Koryo may be translated as "high and beautiful"). Although the course of Korean history has been strongly influenced by the country's location between its two mighty neighbours, China and Japan, Korean culture has retained a distinctive quality of its own and numbers many unique accomplishments in the arts, science and technology. This issue of the *Unesco Courier* examines some of the more important facets of the ancient Korean cultural tradition, thus contributing to Unesco's activities in recording, interpreting and preserving the cultures of Asia. Cover shows portrait of Yi Chae, a scholar-official of the Yi dynasty, by an unknown 18th-century painter.

Spiritual landscape of traditional Korea

by Chang Byung-kil

THOUSANDS of years ago, according to ancient legend which archaeological research and linguistic studies seem to confirm, tribes inhabiting the Altai Mountains started migrating eastwards across Siberia and Manchuria. Some of them, believed to be of Tungu origin, travelled as far as the Korean peninsula. They liked what they saw and from the third millennium B.C. they moved into the peninsula and settled there to become the dominant ethnic group.

The primitive Korean, a hunter-fisher, was much bewildered by the way in which things around him behaved. He wondered if those things too had spirits as he did.

His attempt to understand and come to terms with his environment eventually evolved into a nature-belief that powerful spirits resided in the natural forces and animate and inanimate objects surrounding him. Thus when the hunter had to kill an animal for food, he performed a rite invoking the approval of the totem spirit of the victim he was going to hunt. And when the farmers wished for a good harvest, they held ceremonies which were intended to propitiate the local gods of field and forest.

For personal as opposed to social needs, the individual required an intermediary with the spirit world who could avert or cure sickness and bad luck, and assure a propitious passage from this world to the next when the time came. Such a priestlike individual, known as a shaman, would be called upon to perform the requisite rituals.

The myth of national foundation embodied in Korea's oldest religion, *Taejonggyo,* is comparable to those of other Altaic peoples.

Taejong-gyo is about 4,000 years old, and embodies the concept of a triune god: creator, teacher, and temporal king, whose name is Hanul. This god took human form in the person of Tan'gun, the father, teacher, and king of the Korean people, who descended from heaven onto the highest peak in Korea, presumably Mt. Paektu, in 2333 B.C. Until recent times Korean calendars and dates were reckoned from this year.

Tan'gun became the great teacher and law-giver of the tribes he found living in the Korean Peninsula, reigning over them for ninety-three years until he reascended to heaven.

The tribal communities gradually developed into kingdoms. By the first century B.C., there were three such kingdoms in Korea, namely Koguryo, Paekche and Silla. Religious rituals common to these tribal states included a service directed at propitiating heaven.

The tribal rituals, conducted by the chieftains, who were regarded as "messengers of the Heavenly Emperor", were strongly established among nobles and commoners alike by the time of the Three Kingdoms period, but with the introduction of foreign religions, purity in the practice of *Taejonggyo* gradually declined. By the fifteenth century, this cult as such had practically disappeared.

It was during the Three Kingdoms era(57 B.C.—668 A.D.) that more sophisticated religions began to flow into Korea from China. When Taoism, Confucianism and Buddhism came to Korea, one after another, they were readily accepted and there was no sense of conflict between them or of opposition to rites relating to local nature-spirits.

It is difficult to pinpoint the exact date when Taoism, as philosophy and religion, came to influence Korea. Mural paintings found in Koguryo tumuli near Kangso, Pyongan Province, show Taoist influence. Records indicate that the teachings of Lao Tzu and Chuang Tzu were brought to Korea in the seventh century A.D., and that there was some active effort to study them. Even Buddhist temples were converted to Taoist temples as Koguryo's power began to weaken.

In Paekche too, there was a trend toward believing in Taoist spirit beings. But the strongest imprint of Taoist influence can be discerned in the guiding principles of the *Hwarang* elite corps of Silla, who were trained in patience, simplicity, contentment, and harmony—all part and parcel of Taoist ethics—along with the Confucian doctrine of loyalty, filial piety, righteousness, and faith, and the Buddhist teaching of compassion.

Although Taoism failed to proliferate as an independent cult, it nevertheless continued to permeate all strata of the Korean populace.

The most apparent trace of Taoist influence among the Koreans is the search for blessings and longevity, the strongest of Taoist features. One may observe the indelible Taoist mark in the two Chinese characters, *su* (longevity) and *pok* (blessings, or bliss, or happiness), which are used to decorate so many everyday articles such as spoons and pillow cases. Should one ask an elderly Korean what constitute the ultimate blessings, he would most unhesitatingly answer, "Longevity, happiness, health, wealth, and the begetting of children".

At the time Buddhism entered Korea in the fourth century A.D., the peninsula was drawing toward the middle of the Three Kingdoms period, and was about to be unified as a single nation under the southernmost kingdom, Silla. For geographical reasons primarily, Silla was the last of the three to be penetrated by the foreign religion. Koguryo, the northern kingdom, was visited by a Chinese monk named Sundo in the year 372 A.D., and a dozen years later, neighbouring Paekche played host to an Indian missionary, Marnananta, who had come by way of China.

Silla did not begin to receive Buddhist influence until about half a century later, and it was only in 528 A.D. that it became legal to preach Buddhism openly there, after the miraculous martyrdom of the saintly Yi Cha-don.

Meanwhile, the new religion must have spread like wildfire in the two northern kingdoms, apparently under royal patronage. Many temples and monasteries were constructed, and hordes of believers converted. So rapidly and deeply rooted did Buddhism become in Paekche and Koguryo, in fact, that by the sixth century priests, scriptures, and religious artisans

CONTINUED PAGE 9

CHANG BYUNG-KIL *is professor of religion at Seoul National University. His writings on the history of Korean religions include an important contribution to* A Handbook of Korea, *Seoul, 1978.*

Photo Mikihiro Taeda and Hans Hinz © Office du Livre, Fribourg. National Museum of Korea, Seoul

These two granite bodhisattvas ("future Buddhas") discovered near Kyongju, capital of the ancient Korean kingdom of Silla, were carved some 1300 years ago. The serenity of Buddhism is inscribed in their kindly, smiling faces.

Photo © Kim Tae-byok, National Museum of Korea, Seoul

Colour page

Maitreya in meditation

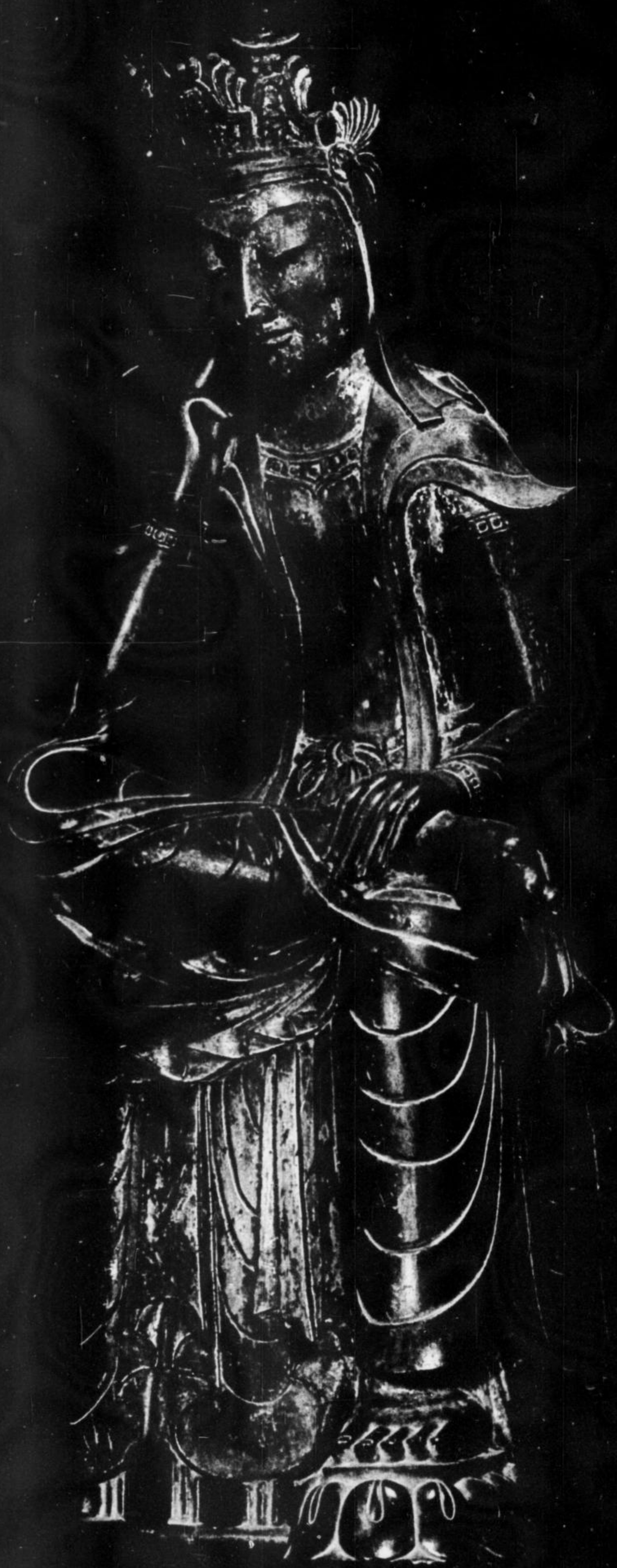
According to Buddhist teaching which spread from India to Tibet, China, Korea and Japan, bodhisattvas are individuals destined to attain the Enlightenment of the Buddha in this or another life. In Mahayana (Great Vehicle) Buddhism they postpone their own final entrance into Nirvana in order to alleviate the sufferings of others, whom they help by perfecting in themselves the six virtues of generosity, morality, patience, vigour, concentration (in meditation), and wisdom. Highly revered throughout the Buddhist world, the bodhisattva Maitreya is here depicted in a gilt bronze sculpture dating from around 600 A.D., the period of the Three Kingdoms in Korea. Features such as the square jaw and bulging cheeks suggest that it may have been made in the south of the Korean peninsula. The artist has succeeded in conveying an impression of spontaneity and grace in a figure which is deep in meditation.

Photo © Yi, Paris, National Museum of Korea, Seoul

Deep in meditation, a sage (above) gazes at flowing water in a work by Kang Hui-an (1419-1465). Calligrapher, poet and functionary as well as a painter, Kang Hui-an visited China where he was influenced by the Ming tradition of Confucian art.

Photo © Kansong Museum, Seoul. Private Collection

The god of longevity, Susong Noin (right) was one of the Taoist figures often depicted by Korean artists. In this ink painting by the court artist Kim Myong-guk (1623-1650), the god's alert and vigorous features are delineated in a style characteristic of 17th-century literati painting.



and artifacts were being sent to Japan, forming the basis of the early Buddhist culture there. Much of the prestige attached to the new cult in Korea, and its eventual adoption as the state religion in all of the Three Kingdoms may be traced to the Koreans' high respect for Chinese learning.

By the time Silla unified the peninsula under one government in 670 A.D. Buddhism had been established there too as the State religion, though governmental systems were already being run along Confucian lines, with no conflict between the two.

Royal patronage during this brief Golden Age of Unified Silla produced a magnificent flowering of Buddhist arts and temple architecture; and the rapid fragmentation of the kingdom after less than 200 years did not harm the position of the Buddhist church either, since the succeeding Koryo dynasty which took power in 936 A.D. was even more enthusiastic in its support of the imported doctrine.

Out of many famous monks and theologians of the Silla era, possibly the most influential was Wonhyo, though he was the only clerical leader of that day who did not study in China. Wonhyo tried to unify the various sectarian rivalries among Buddhists, and sought to make the religion popular and applicable to the daily lives of the people. He wrote many books, and legend ascribes to him a brief love affair with a royal princess—the son of their union being supposedly the scholar who invented the system of writing Korean in Chinese ideographs called *idu*.

During the Koryo dynasty, priests became politicians and courtiers, some of them corrupt or worldly in their interests. When in the thirteenth century the Mongols invaded Korea, conquering and ravaging the entire nation except for the Han River estuary island of Kanghwa where the king and the court took refuge, the Buddhists took their share in the blame for the national disaster. From this era may be dated a definite and rapid decline in Korean Buddhism.

When Yi Song-gye staged a revolt and had himself proclaimed king in 1392, his policy was both anti-Mongol and anti-Buddhist. All influence of the religion was removed from the government. Vast wealth and land holdings of temples were seized and Confucianism became the State religion.

Confucianism had, in fact, first become established in Korea very much earlier. Confucian texts had entered the peninsula well before the beginning of the Christian era and all the Three Kingdoms left records that indicate the early existence of Confucian influence. In Koguryo, for example, there was a central Confucian university functioning by the fourth century A.D., arguing a long and deeply-rooted tradition already in existence: while the province had scattered private Confucian academies called *Kyongdang*.

The neighbouring kingdom of Paekche seems to have established similar institutions at about the same time: as usual, the southernmost kingdom of Silla was a little later in importing the foreign influence. But when in the seventh century A.D., Silla conquered and absorbed the others, her interest in Confucianism and other aspects of Chinese culture rapidly increased. Delegations of scholars were sent to China to observe the workings of Confucian institutions at first hand, and to bring back voluminous writings on the subject. Though Buddhism was the state religion of Unified Silla, Confucianism formed the philosophical and structural backbone of the State.

In Korea, Confucianism was accepted so eagerly and in so strict a form that the Chinese themselves regarded the Korean adherents as more virtuous than themselves, and referred to Korea as "the country of eastern decorum," referring to the punctiliousness with which the Koreans observed all phases of the doctrinal ritual.

The overthrow of the Koryo dynasty in 1392 marked the beginning of a Confucian renaissance. In the fifteenth and sixteenth centuries, under rulers who were generally enlightened or themselves scholars, there was indeed considerable progress in social reform, modernization, and justice. It was an era of inventions, culminating in the development of an exact phonetic system for transcribing the Korean language, called *Han'gul* (see article page 13).

Confucianism produced a new crop of philosophers starting in the seventeenth century called the *Sirhak* or Practical Learning School, whose concern was less academic than utilitarian. Perhaps under the influence of Western ideas filtering into Korea indirectly via the Jesuit missionaries then active in China, there arose a new interest among the literati in such matters as national productivity and defence, agriculture, trade, and welfare of the general populace.

Confucianism in Korea meant a system of education, ceremony, and civil administration. With the passing of the monarchical system in the early twentieth century, only the first function remained important. However, the deeply ingrained Confucian mode of manners and social relations is still a major factor in the way Koreans think and act.

The tide of Christian mission activity began to turn toward Korea as early as the seventeenth century, when copies of Catholic missionary Matteo Ricci's works in Chinese were brought back from Peking by the annual tributary mission sent there to exchange gifts with the Chinese emperor.

In Korea, the missionaries, especially the late-arriving Protestants, came as bearers of modern knowledge in every field, filling a vacuum which the isolated, indrawn Korean nation desperately needed filled if it were to attain that modernization which might assure its continued independence.

The missionaries arranged for the advanced education abroad of many of Korea's young potential leaders, and stood shoulder to shoulder with patriotic resistance to Japan's encroachments upon Korean sovereignty.

The *Tonghak* movement, which arose in the mid-nineteenth century in response to many complex social factors, was in a sense a reaction against Catholicism, which was called "Western Learning," whereas *Tonghak* means "Eastern Learning." It was also inspired by the political decadence of the period, and the plight of country people ground under the heels of city aristocrats or idle rural gentry. In these respects it was a reform movement, and also included anti-foreign elements, in realization that Korea was threatened by outside domination as well as inner decay.

The founder of the *Tonghak* movement Choe Che-u aimed at a religious system, in his own words, "fusing into one the ethics of Confucianism, the awakening to nature taught in Buddhism, and Taoist cultivation of energy."

Syncretism of this kind continued to be a feature of almost all later religions, most of which are Confucian in ethics, follow Buddhist-type rites and adopt Taoist methods in religious practice.

■ **Chang Byung-kil**

Colour page

Millennial home of Holy Writ

Located in a remote spot on the beautiful tree-covered slopes of Mount Kaya in the southeast of the Korean peninsula, the temple of Haein-sa is famed as the repository of the set of thirteenth century woodblocks used for printing the *Tripitaka*, a sacred Buddhist scripture. The 81,240 blocks of the "Tripitaka Koreana" are one of the most outstanding monuments of Korean cultural history. Founded in the year 802 by two monks, Sunung and Ijong, the temple was built by King Aeja of the Silla dynasty. The monarch is said to have been converted to Buddhism and ruled his people from Haein-sa, in whose grandiose setting monks still carry on the tradition of worship begun over a thousand years ago.

Photo — Korean Overseas Information Service, Seoul

處容冠服
紗帽假面及妝丹花
桃實枝耳環附

Photos © Kim Tae-byok, Seoul

1 2

銅蓮花冠
處容假面附

3

ANCIENT KOREA AND WORLD HISTORY

Christian year	Korean history	World history
B.C.		
2333	Tan'gun founds Ancient Chosun	
753		Foundation of Rome
555		Buddha born
551		Great Wall of China
108	Chinese Colony of Lolang established Kimhae pottery	
	THREE KINGDOMS (57 B.C.-668 A.D.)	
57	Silla	
37	Koguryo	
18	Paekche	
A.D.		Christ born
372	Buddhism introduced to Koguryo	
476		West Roman Empire falls
527	Buddhism sanctioned in Silla kingdom	
571		Mohammed born
589		Sui Dynasty unifies China
618		T'ang succeeds Sui in China
660	Paekche kingdom falls	
668	Koguryo falls: end of Three Kingdoms	
	UNIFIED SILLA (670-935)	
670	Silla Kingdom unifies Korea	
751	Construction of Sokkuram Temple	
800		Charlemagne crowned Emperor
907		T'ang dynasty falls in China
	KORYO DYNASTY (918-1392)	
918	Koryo kingdom founded	
935	Silla falls	
960		Sung dynasty founded in China
962		Holy Roman Empire founded
980		Avicenna born
1011	Work started on the Tripitaka Koreana	
1096		First Crusade
1145	Annals of the Three Kingdoms published	
1215		Magna Carta
1231	First Mongol invasion	
1234	Metal type for printing used for the first time	
1272		End of the Crusades
1274	First expedition to Japan	
1275		Marco Polo visits China
1279		Sung Dynasty falls in China
1281	Second expedition to Japan	
1368		Ming dynasty founded in China
	YI DYNASTY (1392-1910)	
1392	Koryo falls, Yi dynasty takes over	
1396	Capital moved to Seoul	
1443	Korean alphabet invented by King Sejong (1419-1450)	
1455		Gutenberg Bible
1492		Columbus reaches America
1498		Vasco de Gama discovers Cape route to India
1592	Japanese invasion	

The shaman's mask

In ancient Korea the shaman cast out demons, cured disease and communicated with the dead. Supernatural powers were attributed to the masks worn during shamanistic rituals. (1) Lacquered wood mask for scaring off evil spirits was discovered in a 5th-century royal tomb near Kyongju. It originally had protruding teeth and two pairs of globular eyes. Survivals of old shamanistic beliefs still find expression in colourful Korean folk dances such as that based on the legend of Ch'oyong, son of the dragon of the east. Originating in the 9th century, the legend was adopted by 13th-century Buddhists who used it to illustrate the principle of countering evil with good : Ch'oyong had resisted the temptation to kill his wife's lover. Photos 2 and 3 show masks worn during the Ch'oyong dance. (2) Mask of a functionary is draped with leaves and equipped with "ears" representing traces of a stag's antlers. Like the symbolic "ears" which adorned the crowns of Silla kings, they recall the antlers attached to the headgear of Siberian shamans. (3) Mask worn by another figure in the dance is capped with a lotus flower, an unmistakable sign of Buddhist influence.

200 years before Gutenberg

The master printers of Koryo

by Ch'on Hye-bong

JOHANNES Gutenberg, a fifteenth-century German craftsman and inventor, is widely believed to have been the first man to produce a font of movable metal type. This belief is mistaken. This momentous invention had been anticipated over two centuries before in Korea, where no less than six distinct fonts of metal type had been created by the time the famous Gutenberg Bible was printed.

According to Lee Kyu-bo, an illustrious man of letters who was also the prime minister of King Kojong of the Koryo dynasty, the first book to be printed with metal type was produced around 1234. In a book of his own he describes how twenty-eight copies of a Confucian work entitled the *Sang-jong-ye-mun* ("Detailed Text for Rites of the Past and Present") were produced and distributed to various government offices.

This great innovation occurred in a country where the art of printing already had a long history. More than seven hundred years before Gutenberg and five hundred years before the invention of movable metal type, artists under the Silla dynasty ▶

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Photo © National Museum of Korea, Seoul

Photo © Korean Overseas Information Service, Seoul

Two early examples of Korean work in xylographic (woodblock) printing and the use of metal type. Above left, the oldest surviving Buddhist text printed with a woodblock, the "Pure Light Dharani-sutra", dates from the mid-7th century A.D. It was discovered in a Korean temple in 1966. Left, two pages from a Buddhist classic printed in 1377 with movable metal type.

had achieved great proficiency in woodblock printing.

Woodblock printing is an art form which reached a high level of development in many parts of east Asia, but the achievements of Korea in this field are so remarkable as to support the view that the most brilliant accomplishments are often fostered within the smaller cultures.

Historians acknowledge that the Chinese invented xylographic (woodblock) printing between 712 and 756 during the great age of T'ang culture. At that time Korea's ruling Silla dynasty was in very close contact with China as a result of a military alliance with the T'ang dynasty which had led directly to the unification of the Korean peninsula. Therefore it may be assumed that knowledge of printing using carved wooden blocks reached Korea soon after its invention.

The oldest surviving woodblock print in the world seems to be the Pure Light Dharani-sutra, a small Buddhist scroll discovered in 1966 at the Pulguk-sa Temple in Kyongju. Scholars have deduced that it was published under Silla patronage around 751 A.D.

The oldest surviving Chinese woodblock scroll is the Diamond-sutra, which was printed in 868 under the T'ang dynasty by Wang Chieh for the purpose of praying for the souls of his dead parents. Comparison of this scroll with the Korean sutra from Pulguk-sa reveals that the Korean product, while displaying similar excellence of workmanship, unmistakably shows features of an earlier age.

The art of printing was further developed in the early years of the Koryo period (918-1392). The Precious Box Seal Dharani-sutra, a scroll published by Ch'ongji-sa Temple in 1007, is a work of exquisite skill and is undoubtedly the best of all such works dating from the early years of the Koryo dynasty.

But the greatest of the Koryo accomplishments in the art of woodblock printing, and perhaps in all the arts, is the monumental 6,000-chapter *Tripitaka Koreana,* based on a Buddhist text imported from Sung China in 991. This project was motivated by the desire to enlist the aid of the Buddha in an attempt to withstand invasion.

The first set of woodblocks, completed in 1013, was destroyed two centuries later when the Mongols invaded Korea in 1232. The invaders ravaged the entire country except for the island of Kanghwa off the west coast, where the king and the court took refuge. It was here that the government-in-exile began the mammoth task of restoring the destroyed Buddhist books. The work went on for sixteen years and resulted in over 80,000 woodcut blocks which are today preserved in the Haein-sa Temple. A precious source for the study of Buddhism, the *Tripitaka* has a strong claim to be considered Koryo's finest product in the arts.

Whatever the truth of this claim, it is indisputable that the invention of movable metal type was Koryo's overwhelming contribution to science and technology. The technological capability existed by the early thirteenth century in the form of suitable papers and inks and in the availability of sufficient metalworking knowledge. The need for books to be produced in a number of copies was driven home when the royal palace of Koryo, along with tens of thousands of books in the royal library, was twice destroyed by fire, in 1126 and 1170. At the same time China, a major source of book supply, was preoccupied with wars which caused a decline in book output. Further stimuli included a growing scarcity of wood suitable for making printing blocks, an abundance of bronze, and the prospect of reduced costs from using a type font on many occasions.

Photo © Jeon Sang-woon, Seoul

Traditional Korean bronze form tray, set with Chongyu type cast in 1777. The text is a page of the *Kukcho pogam* (Precious mirror of the Yi Dynasty).

And yet the promoters of movable metal type were initially to be disappointed, for their innovation did not win general acceptance. To the Koreans a book was both a store of knowledge and a work of art, and the unsurpassable beauty and fineness of detail achieved with wood was to relegate this new technique to the status of a minor oddity for the next one hundred and seventy years.

It was not until 1403 that T'aejong, the second king of the Yi dynasty, revived the neglected technique when he initiated the casting of bronze type for the printing of Confucian classics and historical literature with the aim of helping government officials to rule wisely. His type font was revised by his son, King Sejong, the most beloved of all Korean rulers, and there ensued a series of technological improvements which by the end of the fifteenth century resulted in the printing of books as beautiful as any produced with wood.

■ **Ch'on Hye-bong**

Photo © Korean Overseas Information Service, Seoul

The library at the monastery of Haein-sa houses the famous set of woodblocks inscribed in the 13th century with the *Tripitaka Koreana*. The *Tripitaka* ("The Three Baskets") is the most complete collection of early Buddhist sacred literature. The *Tripitaka* blocks at Haein-sa (see also colour photo page 8) are the oldest and best-preserved of any complete Buddhist scriptures in the world.

A graphic portrait of the human voice

by Lee Ki-mun

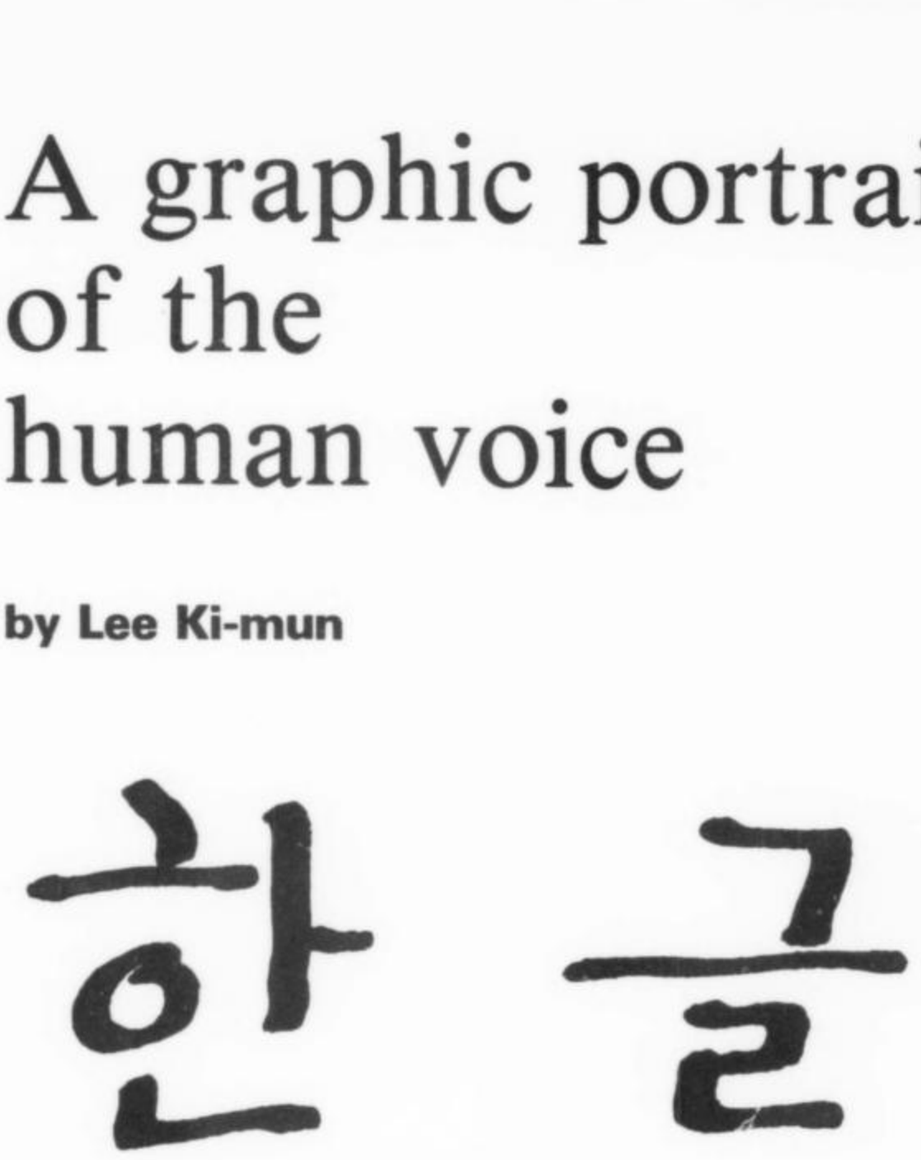


Photo Thomas Chitty © Parimage. Paris

The Korean script known as *Han'gul* was developed by a board of scholars appointed by King Sejong, who ruled Korea from 1419 to 1450. Above, statue of King Sejong in Seoul. Left, the word *Han'gul* itself is made up of the following letters (from left to right and from top to bottom) : ㅇ = h ㅏ = a ㄴ = n ㄱ = g ㅡ = u ㄹ = l.

SPOKEN by some fifty million people, Korean ranks among the twenty major languages of the world. Although most speakers of Korean live on the Korean peninsula and its adjacent islands, about one million are scattered throughout the world on every continent.

The origin of the Korean language is as obscure as the origin of the Korean people. In the nineteenth century when Western scholars "discovered" the Korean language, this was the first question that they raised. These scholars proposed various theories linking the Korean language with Ural-Altaic, Japanese, Chinese, Tibetan, Dravidian, Ainu, Indo-European and other languages.

Among these, only the theories of the relationship between Korean and Altaic (which groups the Turkic, Mongolian, and Manchu-Tungus languages) on the one hand and between Korean and Japanese on the other have continuously attracted the attention of comparative linguists in the twentieth century.

Altaic, Korean and Japanese exhibit not only great similarities in their general structure, but also share remarkable common features such as agglutination (the combination or running together of simple or root words into compounds in which the form and meaning of the constituent parts undergo little or no change) and vowel harmony, although the vowel harmony in Old Japanese has been the object of dispute among specialists in the field. Moreover, it has been found that these languages have various common elements in their grammars and vocabularies. Although much work remains to be done, research seems to show that Korean is probably related to both Altaic and Japanese.

LEE KI-MUN *is professor of Korean language and literature at Seoul National University. His* Comparative Study of Manchu and Korean *appeared, in English, in* Ural-Altaische Fahrbucher, *Volume 30, 1958.*

According to early historical records, two groups of languages were spoken in Manchuria and on the Korean peninsula at the dawn of the Christian era: the northern or Puyo group and the southern or Han group.

Around the middle of the seventh century the kingdom of Silla conquered the kingdoms of Paekche in the south-west and Koguryo in the north and its language became dominant on the peninsula. As a result, the linguistic unification of the peninsula was achieved on the basis of the Silla language.

After the peninsula was unified, the Koryo dynasty was founded in the tenth century and the capital was moved to Kaesong in the centre of the Korean peninsula and the dialect of Kaesong became the standard for the national language.

When the Yi dynasty was founded at the end of the fourteenth century, the capital was transferred to Seoul. However, since Seoul is geographically close to Kaesong this had no significance as far as the development of the language was concerned.

The Korean script which is now generally called *Han'gul* was invented in 1443 by Sejong, the fourth king of the Yi dynasty, who called it *Hunmin-chongum* (the correct sounds for the instruction of the people). However, the script was not promulgated until 1446 in a document which was also called *Hunmin-chongum.*

The motivation behind the invention of Korean script was, according to Sejong's preface in the above book, to enable the Korean people to write their own language in their own way. Until the invention of *Hunmin-chongum,* only Chinese characters were used by the upper classes. There also seems to have been a secondary motivation behind the invention of Korean script, that of representing the "correct" sounds of Chinese characters.

In inventing Korean script, Sejong and the scholars who assisted him probably referred to several writing systems known to them such as Chinese old seal characters, the Uighur script and hP'ags-pa script, but the system of Korean script is based upon phonological studies. Above all, its inventors developed a theory of tripartite division of the syllable into initial, medial and final, as opposed to the bipartite division of traditional Chinese phonology.

The initial sounds (consonants) are represented by sixteen letters of which there are five basic forms. According to the explanations of the original *Hunmin-chongum* text,

ㄱ (k) depicts the root of the tongue blocking the throat.
ㄴ (n) depicts the outline of the tongue touching the upper palate.
ㅁ (m) depicts the outline of the mouth.
ㅅ (s) depicts the outline of the incisor.
ㅇ (•) depicts the outline of the throat.

The other initial letters were derived by adding strokes to the basic letters. No letters were invented for the final sounds, the initial letters being used for that purpose.

The original *Hunmin-chongum* text also explains that the medial sounds (vowels) are represented by eleven letters of which there are three basic forms :

• is a depiction of Heaven.
— is a depiction of Earth.
l is a depiction of Man.

By combining these three signs the other medial letters such as ㅗ (o) and ㅛ (yo) are formed.

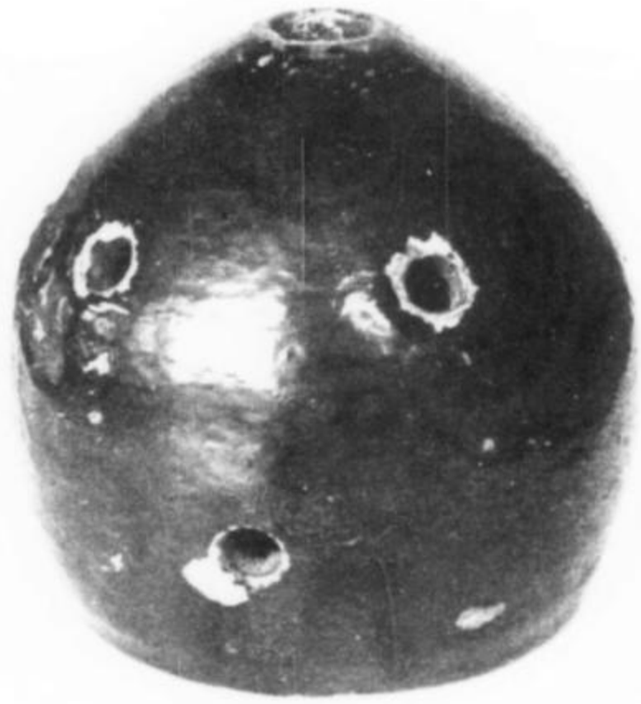
One of the characteristics of Korean script is the syllabic grouping of the initial, medial and final letters. However, Korean script is essentially different from such syllabic writing systems as Japanese *kana.* It is an alphabetic system which is characterized by syllabic grouping.

After the promulgation of the Korean alphabet, its popularity gradually increased to the point, especially in modern times, where it replaced Chinese characters as the main system of writing in Korea. ■

Lee Ki-mun

Oriental Octet

1



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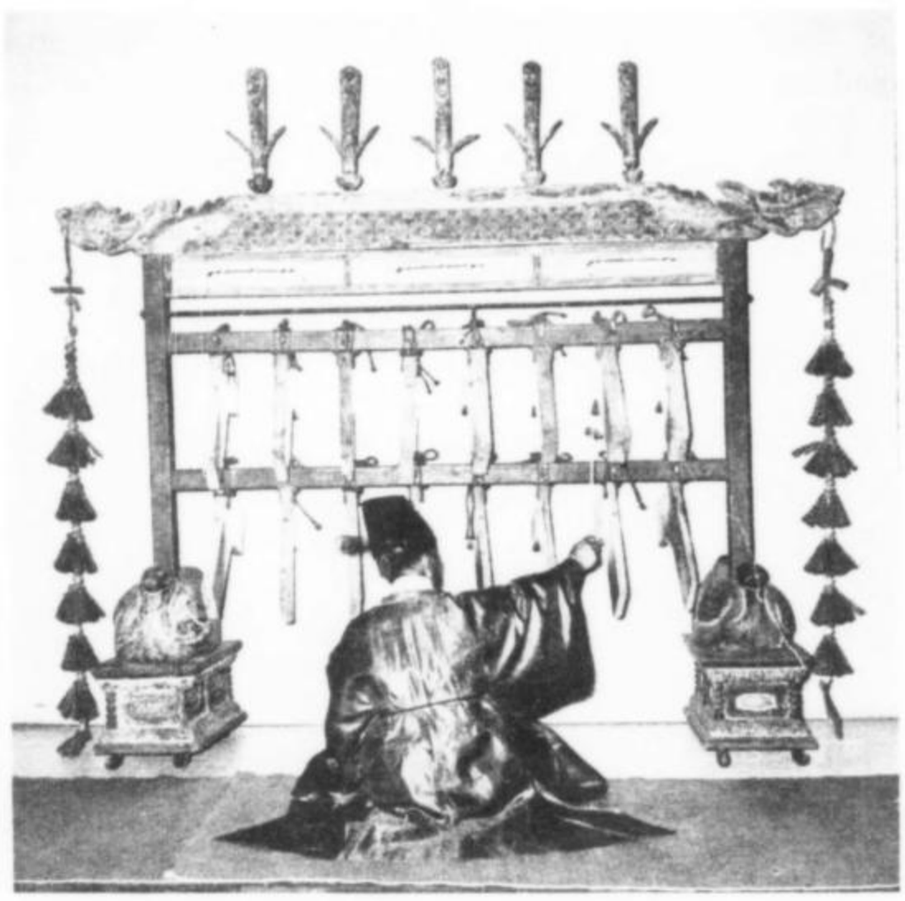

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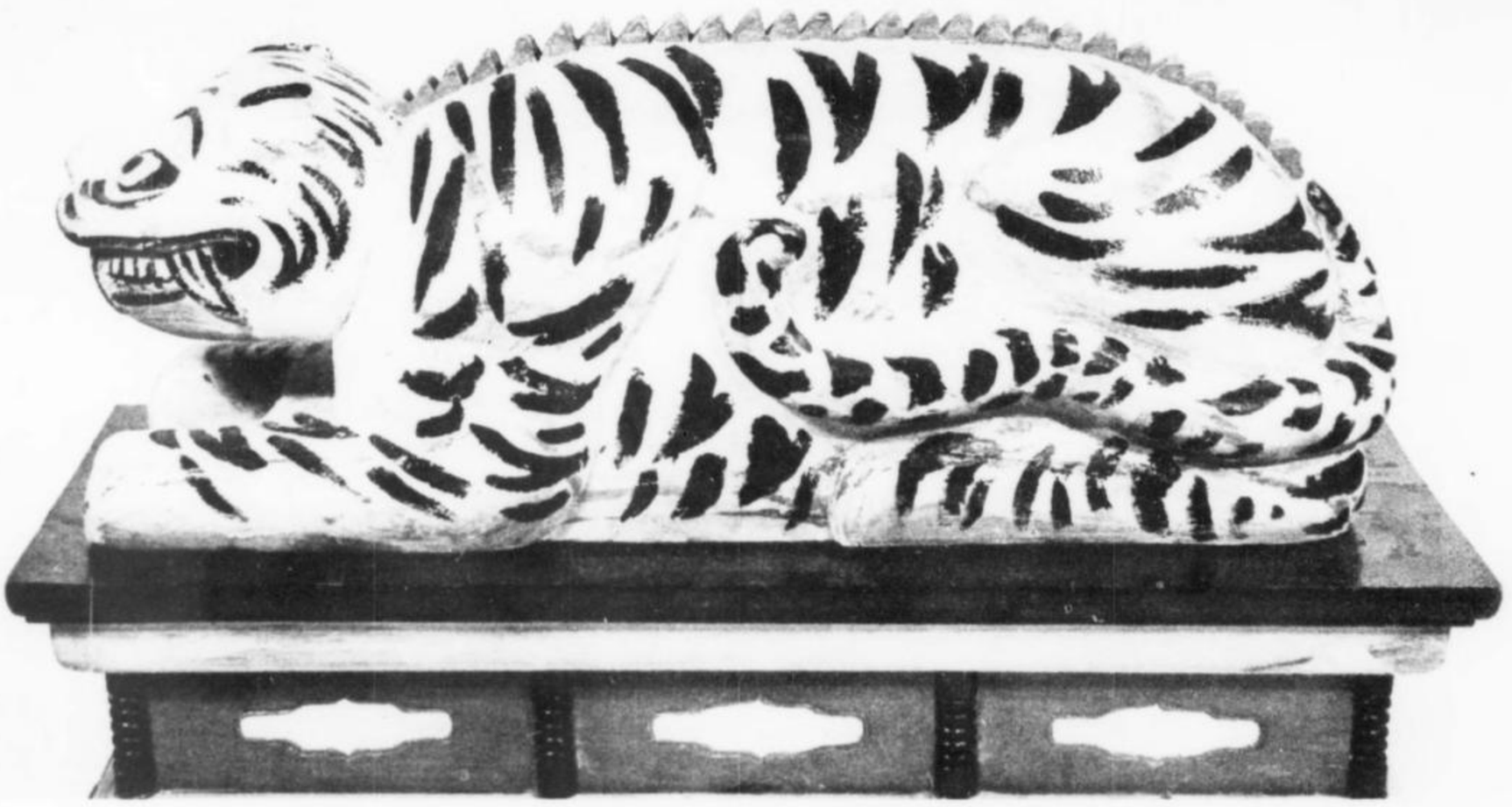

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The traditional music of Korea shares much of the common musical background of Chinese and Japanese music. Yet Korean music has maintained a number of uniquely Korean characteristics which give it a place apart in East Asian culture. These include, for example, the triple rhythms of Korean music, as compared with the double rhythms of Chinese and Japanese music, and its system of notation (*chongganbo*).

Korean music, like Korean painting, reveals two distinct currents—classical or court music with its slow elegance and controlled passion, and folk music with its lively rhythm and emotional melodic expression which is comparable to that of an Indian *raga*. Court music includes a number of different types of music each of which was used on specific occasions or for specific ceremonies, for example, banquet music and ritual Confucian and ancestral shrine music.

Following a tradition borrowed from China, musical instruments are classified according to the eight principal materials from which they are made: wood, clay, metal, stone, hide, gourds, silk and bamboo. Instruments representative of each category are shown on these pages. Wood is represented twice because the instruments traditionally used to start and end a performance are both made of wood.

(1) Wood: the *Chuk* is a kind of wooden trough with a hammer inserted through the cover; the *Chuk* is placed at one side of the orchestra and the hammer strikes the bottom of the trough three times to indicate the start of a performance. (2) Clay: the *Hun* is a rounded flute with a blow hole on top and five finger holes; the pitch depends upon the width of the flute and the manner in which the clay is baked. (3) Metal: the *P'ycnjong* is a set of sixteen bronze bells hung in two rows on a carved wooden stand; the bells are identical in size and shape but of varying thickness of bronze and are struck with a hammer made of horn. (4) Stone: the *P'yon'gyong* is a set of sixteen jade stone chimes which are also struck with a horn hammer; pitch varies according to the thickness of the jade. (5) Hide: the *Changgo* is an hour-glass-shaped drum; the left hand skin is thick and is struck with the palm of the hand; the thinner right hand skin is struck with a drumstick. (6) Gourd: *Saenghwang* is a type of mouth organ consisting of a small bowl fashioned from a gourd from which seventeen slender bamboo pipes, one of which is mute, of differing lengths protrude; at the base of each pipe is a thin metal tongue which vibrates when the performer blows into the gourd. (7) Silk: the *Komun-go* is a six-stringed zither with strings made of silk. (8) Bamboo: the *Hyang-piri* is an oboe made of bamboo with double reeds and eight finger holes; it was introduced to Korea during the fifth century. (9) Wood: the *O* is an instrument in the form of a tiger with twenty-seven indentations along its back; at the close of a performance the tiger is struck three times on the head and then a split bamboo stick is drawn across the indentations on its back; the *O* is always placed at the opposite side of the orchestra to the *Chuk*. ■

7

8

Photos Lee K.M., Seoul

The wall paintings of Koguryo :

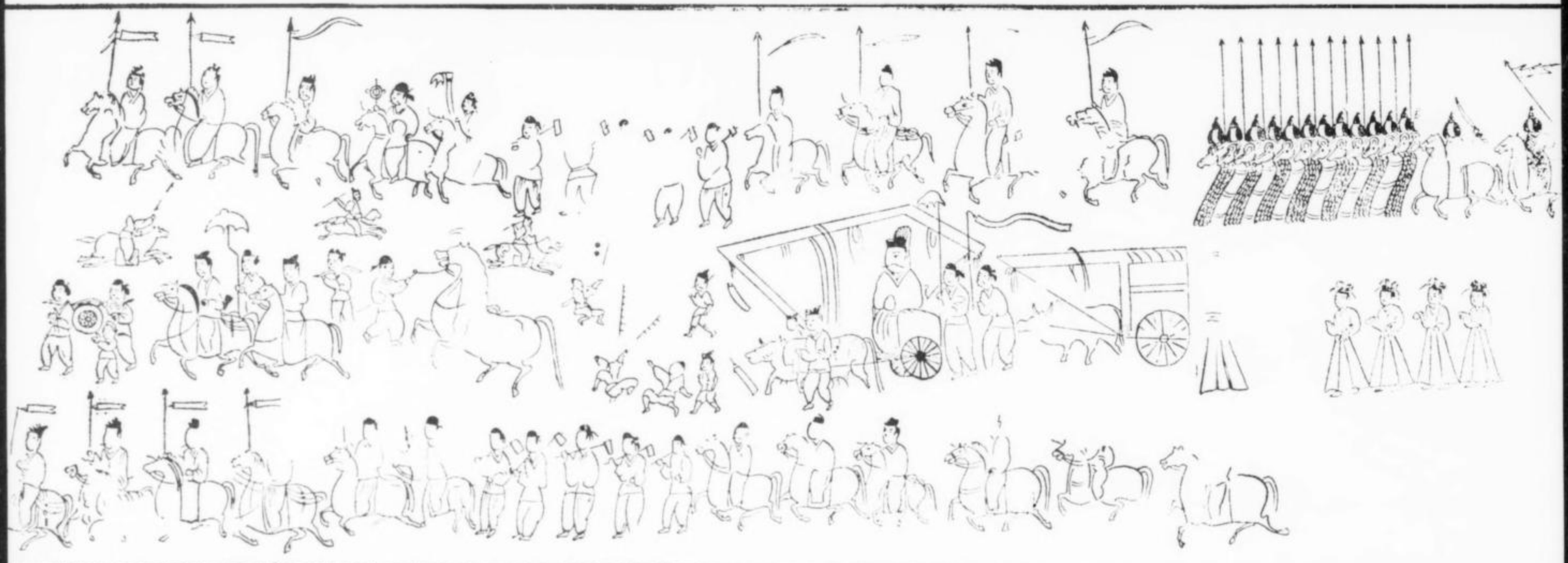
A fresco of daily life

THE tombs of kings and nobles, discovered during recent decades along the middle reaches of the Yalu river in the T'ung-kou plain of south Manchuria and in the basin of the Taedong river, near P'yongyang, represent the height of artistic and architectural development of the ancient kingdom of Koguryo (37 B.C.-668 A.D.).

The sites of the tombs were selected by diviners for their favourable aspects and are scattered widely over the countryside. Some fifty of them are decorated with wall paintings of great beauty which provide precious information on the beliefs, the organization and the daily life of the society of the period. The architectural skill with which these tombs were built is evidenced by the design of the vaulting and the placing of the pillars. Long buried beneath their protective mounds of earth, the tombs exemplify the deliberate marriage of the aesthetic with the functional.

Portrait thought to be of King Michon, from tomb No. 3 at Anak, Hwanghae province.

Photo © Academy of Social Sciences of the Democratic People's Republic of Korea



The royal procession, a mural in King Michon's tomb.

The wall paintings, which are in a remarkable state of preservation, deal with a wide variety of subjects.

In the "Two Pillars Tomb", two corteges wend their way along the walls of the entrance corridor, traverse the ante-chamber, finally converging at the far end of the main chamber where a man and a woman are seen seated on a dais.

The huge fourth century tomb of king Michon, at Anak in the province of Hwang-hae, comprises four fully decorated chambers. Its most remarkable mural is a six-metre-long portrayal of a royal procession. The king, seated in an ox-drawn carriage, is escorted by mounted and foot guards and a host of retainers and clowns, in all 250 figures. Surprisingly, although almost all these figures represent conventional categories—nobles, functionaries, monks, servants, jugglers, etc.—each figure is different, and so are the features of each face. So subtly are the varieties of expression rendered that it seems as though each figure was a real man or woman known to the artists. The same scrupulous attention to detail can be seen in the portrayal of weapons, armour, carriages and landscape.

The Koguryo tomb paintings also present a veritable bestiary, including domestic and wild animals, real and mythological beasts, the latter representing the points of the compass. It was also in the kingdom of Koguryo that astronomers compiled the first Korean star maps, such as that painted on the ceiling of the principal chamber of the Tomb of the Dancers.

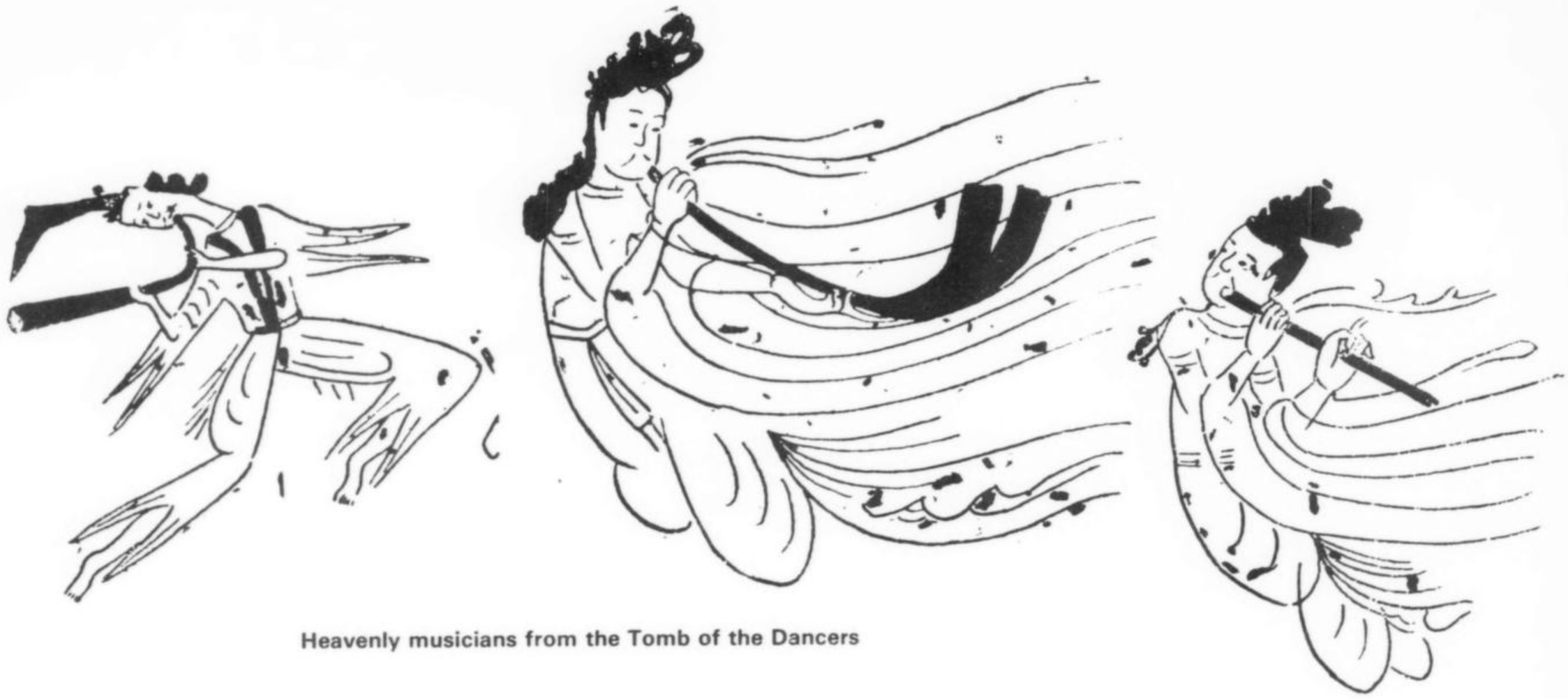
An infinite variety of ornamental motifs adorn the Koguryo tombs; lotus flowers and honeysuckle tendrils entwine the pillars and enliven the ceiling panels, testifying to the rich artistic technique and the inexhaustible inventiveness of the anonymous artists who produce these masterpieces of a bygone age. ■

The wall paintings of the Anak tombs and the Tomb of the Three Chambers are rich in information on a wide variety of costumes.

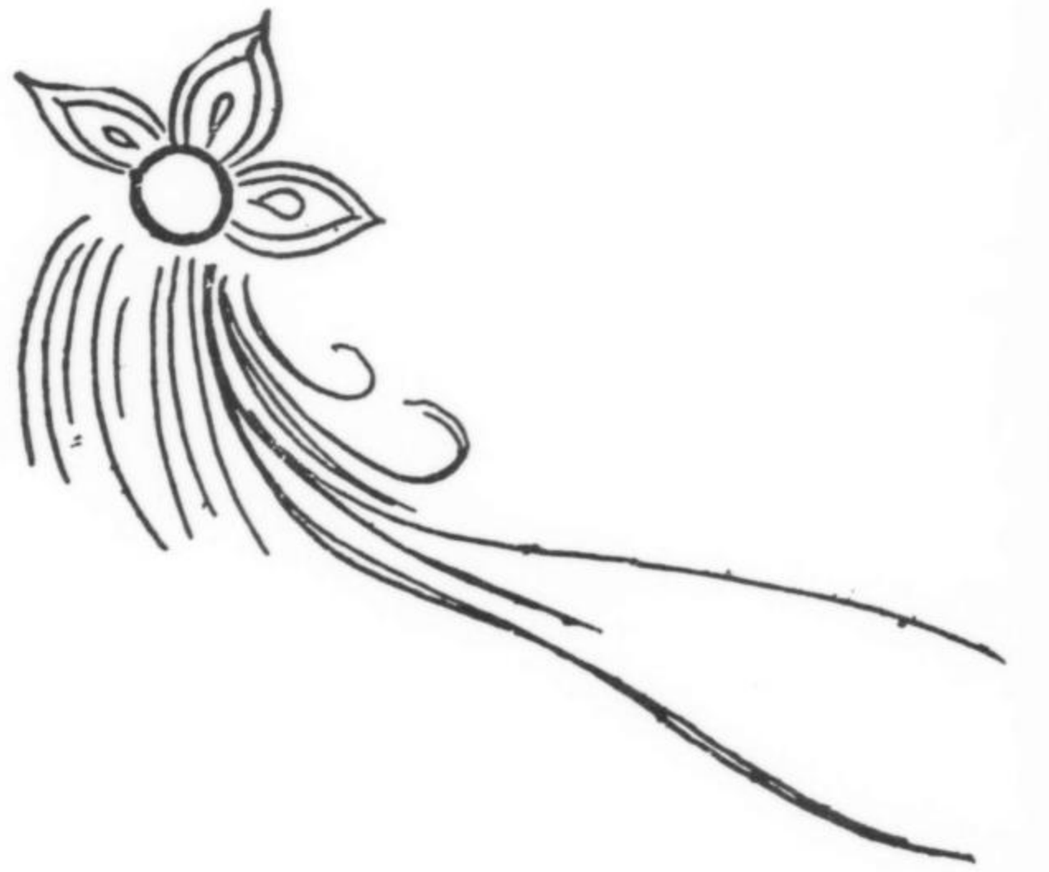
Horseman and mounted archer from the Twin Pillars Tomb, Chinjidong, Pyongang province.

Honeysuckle design on a ceiling panel of King Michon's tomb.

MORE DRAWINGS PAGE 18



Heavenly musicians from the Tomb of the Dancers



Decorative motif from one of the Kangso tombs

Fabulous creatures from the Anak tombs and the Twin Pillars Tomb

Drawings taken from The Culture of Kokouryo (1972) © *Academy of Social Sciences of the Democratic People's Republic of Korea.*

Korean painting—an original contribution to Oriental art

by Ch'oe Sun-u

DOWN the ages, Korean painting has been strongly influenced by Chinese painting, both because of the geographical proximity of the two countries and the long-standing cultural ties between them. Yet Korean artists were not content with mere imitation. They created a uniquely Korean art by harmonizing Chinese influences with their own native genius.

Korean art goes back to the tomb murals which were a prominent feature of the culture of the ancient kingdom of Koguryo (37 B.C. to 668 A.D.). In its early days, the kingdom was open to the influence of north Asian civilization through its contacts with a number of peripheral tribes, such as the Huns. But the dominant influence was that of the north Chinese culture developed under the Han dynasty (206 B.C. to 220 A.D.) and the Six Dynasties (280 B.C. to 589 A.D.), and the murals of the ancient Koguryo tombs, both in conception and in style, drew their inspiration from Chinese painting of this period.

This tradition had its counterpart in the kingdom of Paekche (18 B.C. to 660 A.D.). The murals in the stone tomb in Nungsanni, Puyo, which depict in a refined and delicate style lotus flower designs, cloud patterns, and portraits of the Four Gods are an excellent example of Paekche art. Another excellent example is the tomb of King Muryong which was discovered in Kongju in 1971. The tomb contains delicate lotus designs and colour representations of the Red Phoenix and animal deities. A beautiful landscape painting executed on a brick wall in a ruined Paekche temple which dates back to the first half of the seventh century confirms the notable development of landscape painting during the Paekche era.

The kingdom of Silla (57 B.C. to 668 A.D.) was by far the most conservative of the three ancient kingdoms as far as painting was concerned. Up to 1950 no trace of Silla painting had been found, but excavations in recent years have turned up some exciting findings, notably the birch bark paintings discovered in Tomb 155 in Kyongju in 1973. A form of oil painting, it would seem that the contours were first drawn rather freely on the surface of articles made from white birch bark and that the colours were then added.

The *Samguk Sagi* (Historical Records of the Three Kingdoms) has an interesting anecdote about a painter named Solgo who was active from the middle of the sixth century to the beginning of the seventh century. "A painting of an old pine tree which Solgo executed looked so real that birds flew into the room to perch on its branches. After the passage of time the colours in the painting began to fade and it was retouched by an old priest. From then on, the birds were no longer deceived." So, even though no actual Silla paintings are extant, with the exception of those

Photo © Han Sok-hong, Seoul

Landscape (ink and colour on silk) attributed to the 16th-century scholar-painter Yi Kyong-yun. With a group of other artists Yi Kyong-yun introduced into Korea the "Northern School" style of painting inspired by Chinese art. The crane near the human figure symbolizes immortality.

CH'OE SUN-U *is director of the National Museum of Korea, Seoul. He is one of the contributing authors of* Korea, its Land, People and Culture of all Ages, *Seoul, 1963.*

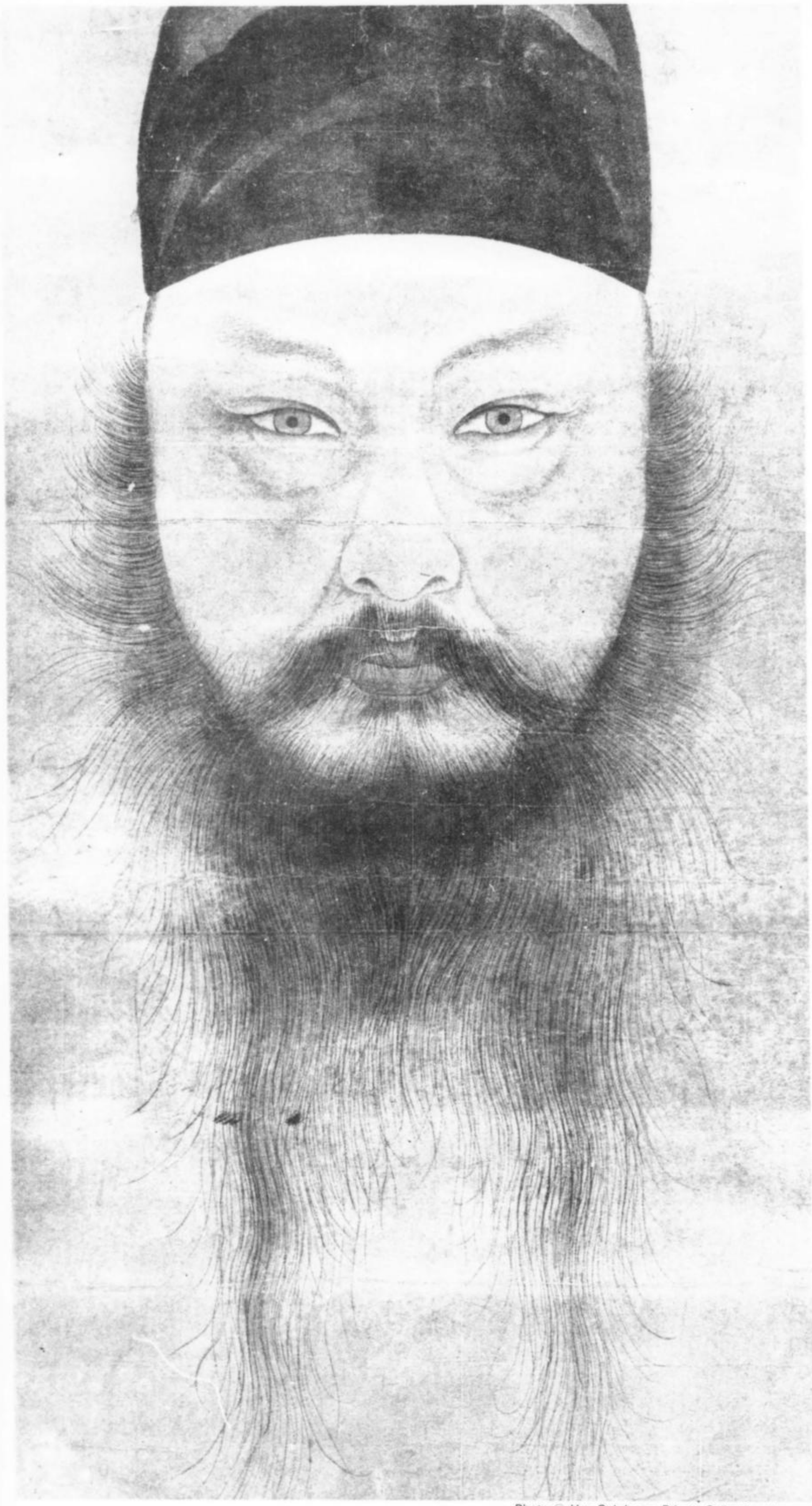


Photo © Han Sok-hong, Private Collection, Haenam

Self-portrait (ink and colour on paper) of Yun Tu-so, a 17th-century scholar-painter of the Northern School. One of the few self-portraits to have survived from Yi dynasty Korea, the face is realistically portrayed with every strand of the beard being meticulously delineated.

associated with tombs, one can see that, by contemporary judgement at least, works of outstanding artistic merit were being produced.

There were two schools of painters during the period of the Koryo dynasty (918 A.D. to 1392 A.D.), one comprising professional painters and the other made up of aristocrats, scholars and literati who regarded painting as a hobby.

Yi Nyong was one of the representative professional landscape painters of the Koryo era. Two of his landscapes, one depicting the Yesong River and the other depicting the Chonsuwon Pavilion, won great praise from Emperor Huitsung of Sung China who was himself an accomplished artist.

Outstanding among the literati painters of the day were Chong Chi-sang, famous for his landscapes and paintings of flowers, Haeae and Hyeho, both Buddhist monks, who gained renown for their Buddhist paintings and their bamboo paintings in Indian ink, and King Kongmin (1351-1374) who excelled in landscape painting, paintings of flowers and birds, and portraits.

The division of the painting world into two schools mentioned earlier was intensified under the Yi dynasty (1392-1910). The professional painters centered their activities around the *Tohwa-so* (Office of Painting), a government office which had been set up in the Koryo era but was reorganized under the Yi dynasty.

The leading professional landscape painters during the early Yi dynasty were An Kyon and Yi Sang-jwa, and the outstanding literati landscapist was Kang Hui-an. All three painted in the style of the old Sung academy, showing the conservative taste of the royal court and the nobility. A factor in this trend towards conservatism was the enormous collection of Sung and Yuan paintings which Prince Anp'yong, the fourth son of King Sejong, had in his possession. Prince Anp'yong was a young man of refined taste and artistic leanings.

Around the middle of the sixteenth century a group of painters, notably Kim Che, Yi Pul-hae, and Yi Kyong-yun introduced the Northern School style of painting to the Korean art world. The Northern School continued to exert its influence until the end of the seventeenth century, numbering among its adherents artists of the calibre of Yi Chong (1578-1607) and Yun Tu-so (1668-?).

The eighteenth century saw the emergence of a number of remarkable painters. Among them was Chong Son, a landscape artist, who introduced the Southern School and thus boldly challenged the conventional Northern School style. Chong Son was the first artist to successfully adapt the Southern School style to paintings of Korean scenes and this innovation may be attributed to the awakening of a new national consciousness, which ultimately led to the emergence of the *Sirhak* school of practical learning, a popular literature written in *Han'gul*, and genre painting based on themes taken from the daily lives of the people.

■ **Ch'oe Sun-u**

Photo © Yi, Paris

Photo © Han Sok-hong, Seoul

Photo © Han Sok-hong, National Museum of Korea, Seoul

Northern School painting was challenged by the "Southern School" which contributed to Korean art a host of lively paintings of scenes from everyday life. Kim Hong-do (born around 1745) was a noted painter who boldly and wittily depicted the occupations and recreations of people usually neglected by conventional painters. Three scenes by Kim Hong-do : *The Amorous Look* (top right); *Village School* (right). Typical Korean musical instruments are featured in *Musicians and a Dancer* (above).

The unicorn, the phoenix and the flying horse

Recent discoveries from three ancient royal tombs

by Kim Won-Yong

Photo © Han Sok-hong, Seoul. National Museum of Kongju

Fabulous stone animal with a single iron horn guarded the burial chamber of King Muryong (501-523) at Kongju, capital of the Paekche dynasty.

AROUND the beginning of the Christian era, at the height of the early Iron Age in Korea, the inhabitants of the Korean peninsula began to form what might be called village-states in various parts of the country.

According to *Samguk Sagi,* the official history of the Three Kingdoms in Korea, compiled in the twelfth century, the Koguryo kingdom was formed on the northern bank of the Amnok (Yalu) river in 37 B.C. Twenty years later, in 18 B.C., a group of political refugees from Koguryo established the state of Paekche in what is today the Seoul area on the lower reaches of the Han river.

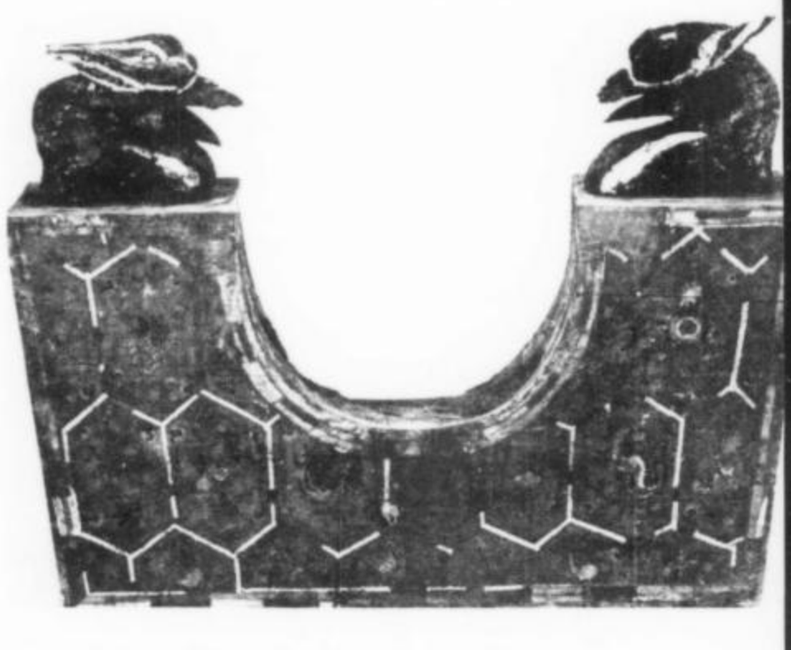
Koguryo was renowned for its mounted archers who harassed the north-eastern frontier of China across the Liao-ho river in the Liaotung peninsula. Towards the end of the fourth century, however, when the Northern Wei dynasty (386-534) rose to power in northern China, the Koguryo kingdom had to change its policy and in 427 moved its capital further south to Pyongyang. This southward advance naturally led to friction between Koguryo and the two southern kingdoms.

The Paekche kingdom remained in the Seoul area until 475, when it moved its capital to Kongju in south-western Korea after being defeated by Koguryo. In 538 Paekche again moved its capital, this time to Puyo a little further south. Puyo remained the capital of Paekche until the kingdom collapsed in 660.

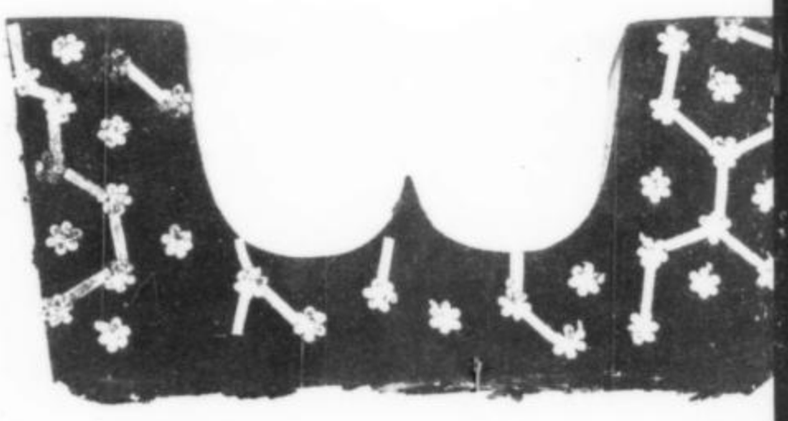
The State of Saro, or Silla, emerged in 57 B.C. in south-eastern Korea in the valley of Kyongju, which remained the capital throughout Silla's thousand-year-long history. Silla steadily expanded northwards and westwards at the expense of Koguryo and Paekche respectively, and by the middle of the sixth century had won possession of the Seoul area, thus securing a base on the west coast. This expansion naturally led to battles with its two neighbours and as a result Silla formed an alliance with the T'ang dynasty in an attempt to unify the entire Korean peninsula.

This policy succeeded, and Paekche and Koguryo fell before the allied forces in 660 and 668 respectively. Silla before unification is usually known as Old Silla, and after unification as Unified or Great Silla (670-935).

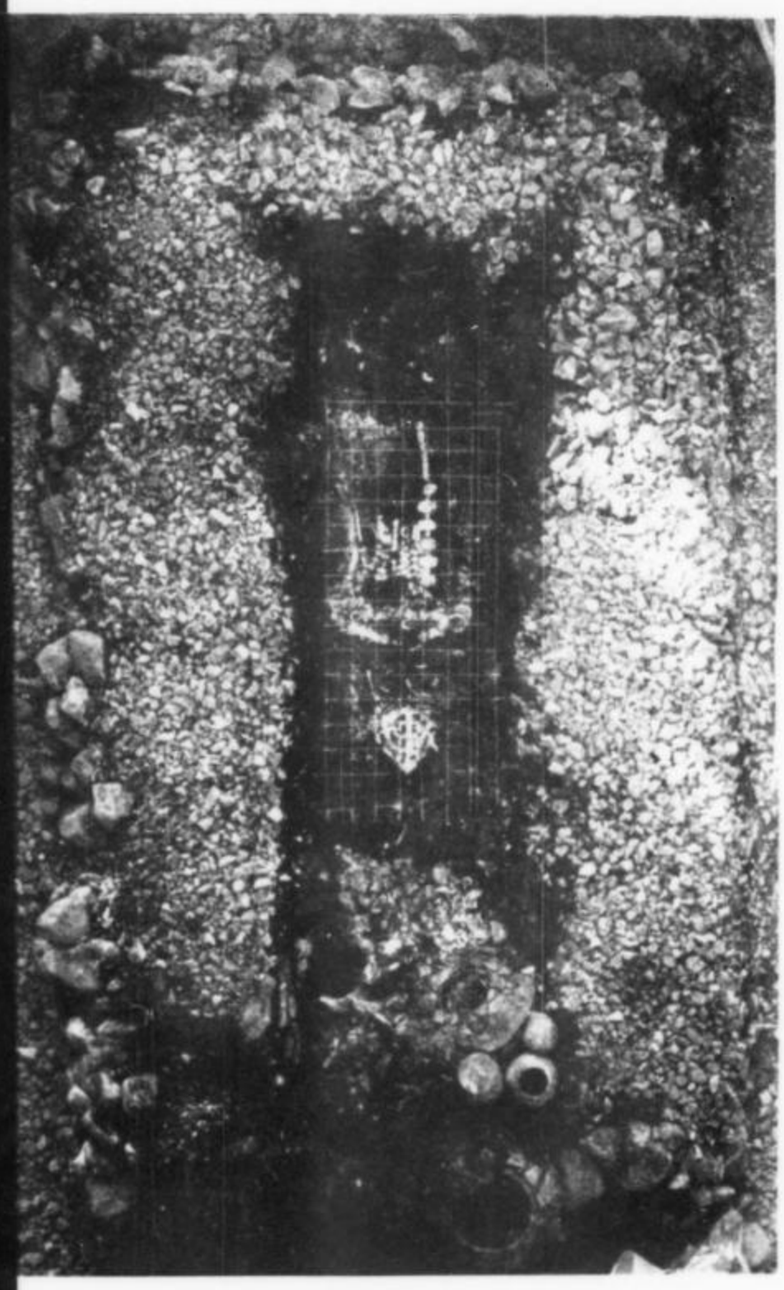
Many tombs of kings and aristocrats of each of the three kingdoms have been discovered near the ancient capitals. In southern Korea those of the Paekche kingdom are clustered around Seoul, Kongju and



King Muryong and the queen who was buried with him were laid on a bier with elaborately painted wooden pillows and foot-rests. Phoenix heads face to face on each side of the queen's pillow, above. Below, the king's foot-rest.



KIM WON-YONG *is professor of archaeology at Seoul National University. He is the author of* History of Korean Art, *Seoul, 1968.*



Crown, bracelets and jewellery as they were found in the Great Tomb of Hwangnam. Barely visible are the lines of the grid used by archaeologists to record the exact position of each object.

General view of ancient burial mounds at Kyongju, capital of the kingdom of Silla (57 B.C.-668 A.D.). Dwarfing all the rest, the twin mound at right is the Great Tomb of Hwangnam in which a royal couple was buried in the late 5th century.

A scene during the excavation of the Great Tomb: the mound has been removed, revealing the layer of stones which covered the burial chamber.

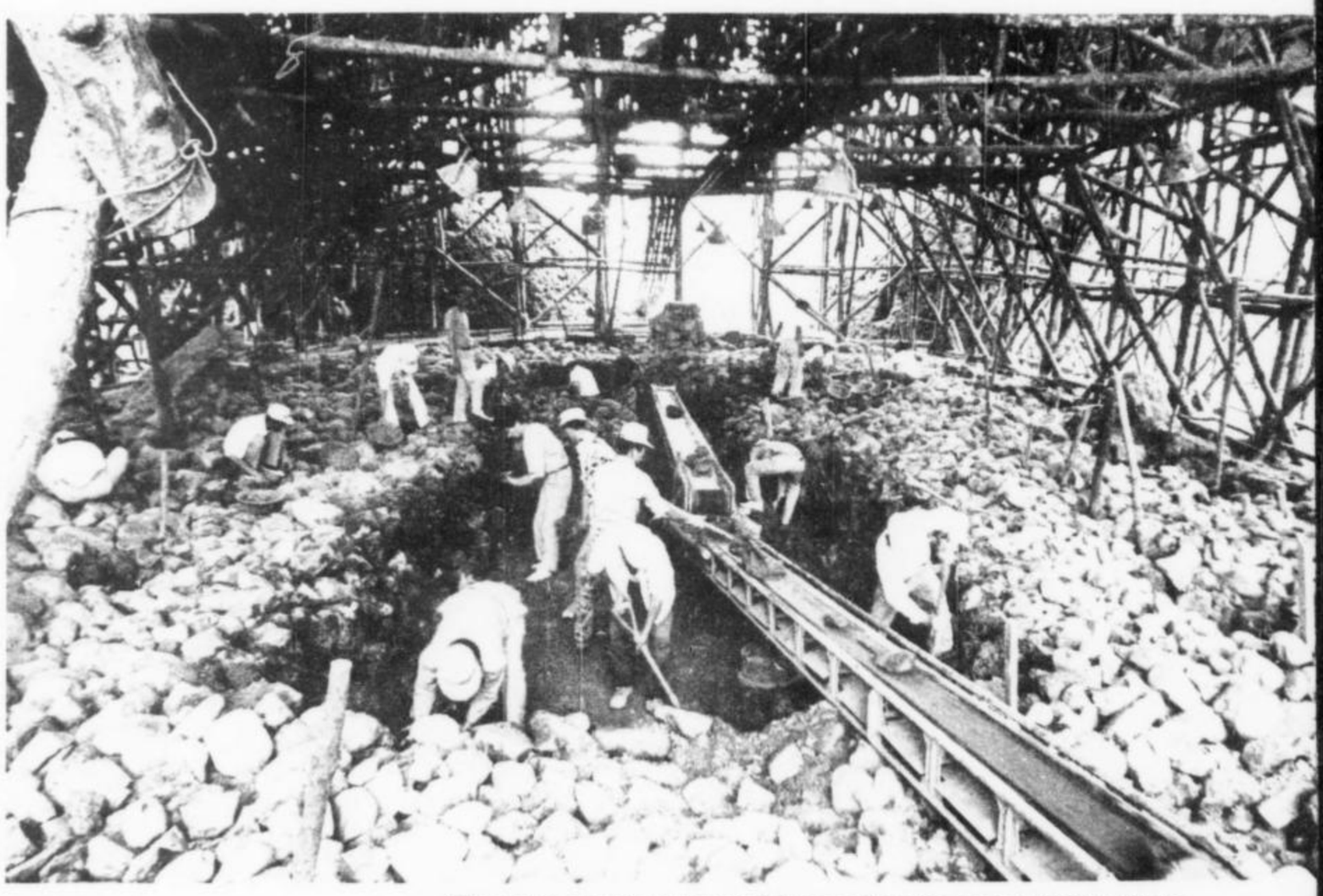
Puyo, while Silla tombs are concentrated in the Kyongju area.

Paekche tombs are stone (very rarely brick) chambers covered with a mound of earth. Because access to the burial chambers was easy, almost all of them were looted of their contents long ago.

Thus the accidental discovery of the intact tomb of King Muryong (501-523) in Kongju in 1971 was an event of major importance.

At the northern edge of Kongju there is a brick tomb with mural paintings, probably dating from the early sixth century. Discovered in 1933, it had been completely stripped by robbers. Nevertheless it was the first Chinese-style brick tomb to be discovered in Paekche territory, and also the second Paekche tomb to be discovered decorated with wall paintings, the first being a tomb in Puyo.

In early July 1971, a labourer working behind the tomb to improve the drainage



Photos © Bureau of Cultural Property Management, Seoul

The stones are removed beneath a temporary structure erected to protect the site.

around it struck a brick which turned out to be the left upper corner of the façade of the tomb of King Muryong. The new tomb was covered by a low mound which archaeologists had previously assumed to be an earthwork to protect the portion of the tomb with wall paintings.

The royal tomb, whose entrance faces south, was constructed by cutting into the slope of a hill. It consists of a main chamber and a smaller passageway leading in from the south (See colour page opposite). A vertical brick wall was constructed at the outer end of the passageway. This façade had an arched doorway which was sealed with bricks.

A drain, eighteen metres long, was positioned at the bottom of the main chamber, extending as far as the slope of the hill. Both the main chamber and the passageway are tunnel-shaped and are lined with hard grey bricks decorated with lotus designs in relief. The structure is a faithful copy of contemporary Chinese tombs in the Yangtze river area.

At the entrance to the tomb chamber, there is a step down to a recessed portion of the floor, which occupies approximately one-fifth of the total area of the main room. Thus the rear four-fifths of the chamber, where the royal coffins were placed, give the impression of being raised. Five small, onion-shaped niches were set in the walls to hold porcelain lamps which, when discovered, still contained the remains of burnt wicks.

In the middle of the passageway stood a stone guardian animal with a single iron horn and carved stylized wings. In front of the animal were two inscribed stone plaques placed side by side, each of them bearing a number of iron Wu-shu coins of the Liang dynasty (502-557). One of the plaques bore the name of King Muryong, along with the dates of his death and of the deposition of his coffin in the burial chamber. The other, dedicated to his queen, was inscribed with the contract drawn up between King Muryong and the Earth Deity for the purchase of the site for 10,000 coins.

According to the inscriptions the king died in 523 and was buried in the tomb in 525, exactly twenty-eight months after his death. His queen died in 526 and was buried in 529. The king was sixty-two years old when he died, but the age of his queen was not given in the epitaph. A molar tooth, the only organic material in the queen's coffin, however, was identified as that of a woman about thirty years old who had experienced a healthy adolescence. We do not know whether or not her death was a natural one.

When Seoul, the first capital of Paekche, was sacked by the army of Koguryo in 475, the defeated King Kaero died in the battle. Members of the royal family, including the fourteen-year-old Prince Sama, who later became King Muryong, fled to Kongju. It was there that he ascended the throne in 501, immediately sending an envoy across the Yellow Sea to China as a measure of security against the invading Koguryo. Paekche enjoyed peace and progress during the reign of Muryong who, according to the *Samguk Sagi,* was a tall, handsome man greatly loved by his people. It was only after his death that the title "Muryong", meaning Military and Peace, was bestowed on him.

Muryong's tomb may have been an imitation of a Liang brick tomb, commemorating the king's close alliance with Liang China. It is the only Paekche tomb yet discovered to be identified as that of a known king, to contain inscriptions of dates and a full, intact inventory of rich burial objects.

The discovery caused great excitement not only in the city of Kongju but throughout Korea and even in Japan, because Paekche was traditionally regarded by the Japanese as the transmitter of an advanced culture into Japan.

The king's coffin was placed in the eastern side of the chamber with its head pointing to the south; that of the queen occupied the western side. Both coffins had collapsed because the planks at each side had decayed. The heads and feet of the royal couple had rested on painted wooden pillows. According to the history of Liang China, Paekche kings wore a black silk crown with gold floral ornaments attached to the back and front. A pair of such ornaments was found near the king's head-pillow. Both the king and his queen had once worn a garment studded with many tiny beads and gold floral ornaments. The king also wore gold earrings and a girdle with a long silver pendant. Two bronze mirrors were in the king's coffin, one near his head and one near his feet. The latter is particularly remarkable on account of the animal figures depicted on it in relief over patterns of a kind usually found on Chinese mirrors.

The queen's wooden head-pillow is more elaborate than that of her spouse. Miniature portraits of animals and birds were painted on a red background, and a phoenix head was carved at each end of the pillow. The queen wore a gold necklace, gold and silver bracelets and gold earrings. A pair of tiny glass figurines in the shape of a small boy with a shaven head were suspended from the queen's girdle, probably as a charm.

The relics from this royal tomb provide solid clues to the chronology of archaeological specimens and works of art from the Three Kingdoms period, as well as the contemporary Kofun Period in Japan.

The second major archaeological discovery in Korea in recent years occurred in April 1973 when a team of specialists began excavations in the centre of the Silla cemetery in the city of Kyongju, the capital of Silla.

Hundreds of Silla tombs, dating from the fourth to the eighth century A.D., are still to be seen in and around the Kyongju Basin. Although many of them have lost their covering mounds, some are well preserved with enormous mounds over twenty metres high and fifty metres in diameter.

The typical Silla tomb consists of an earth mound enclosing an inner mound of boulders, which in its turn covers a box-like wooden chamber containing a coffin and burial objects. Within a few years of construction, the wooden chamber collapsed due to natural decay and the stones fell into the burial chamber, crushing most of the tomb offerings.

CONTINUED PAGE 29

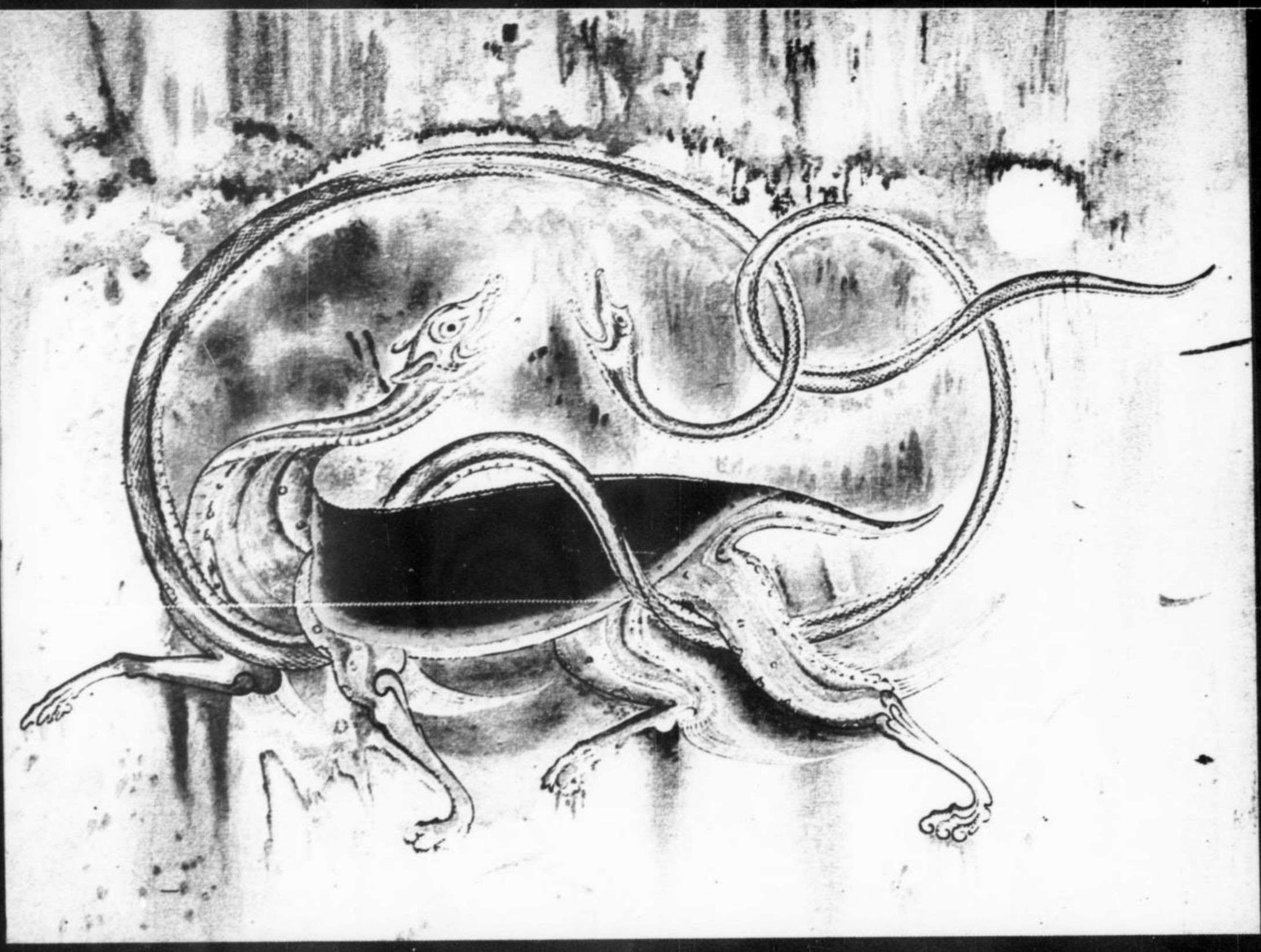
Fabulous beasts from royal tombs

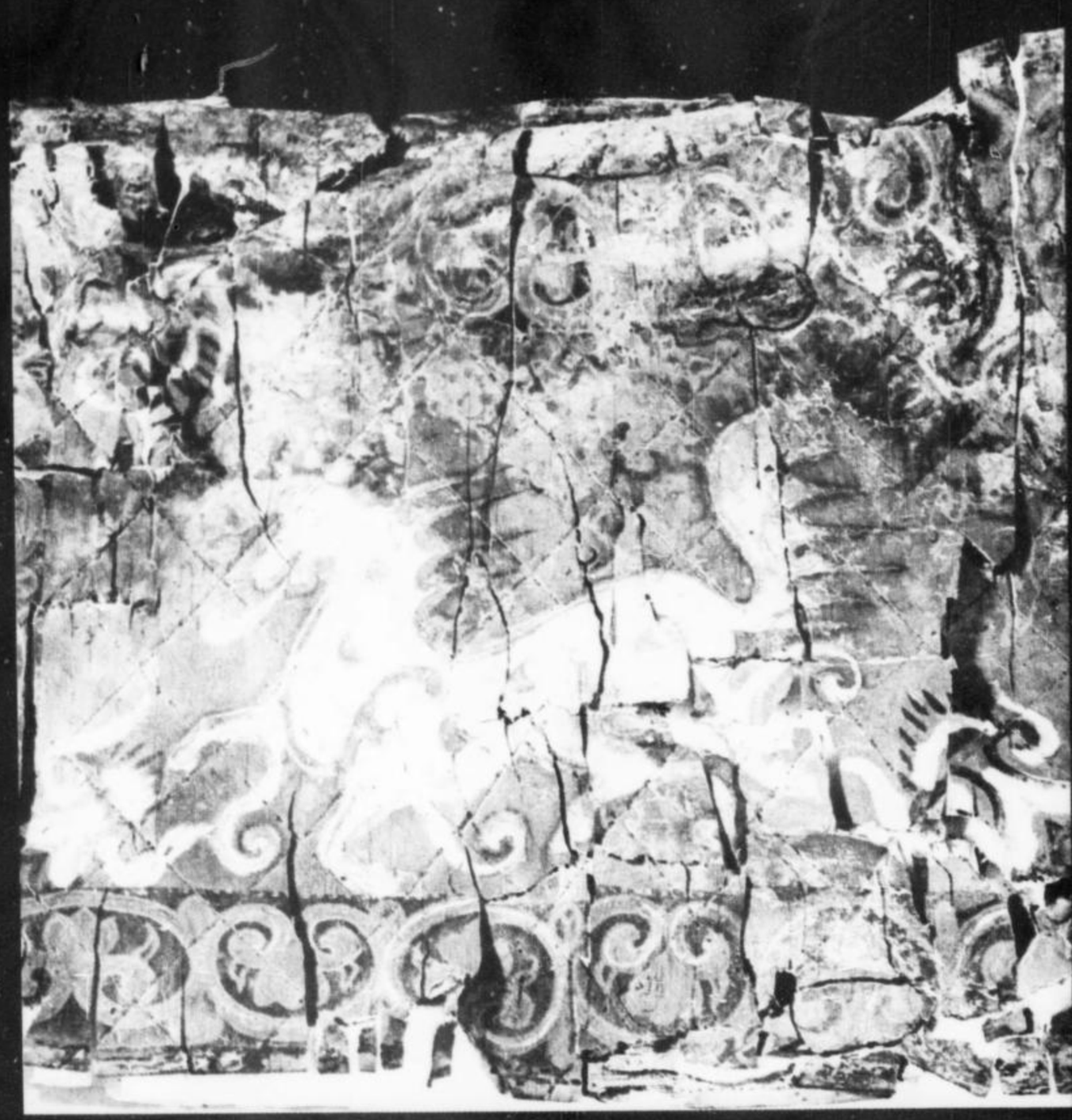
The only architectural remains of the ancient Korean kingdom of Koguryo are mound tombs with stone burial chambers often richly decorated with wall paintings depicting real or mythical creatures as well as scenes from everyday life. The turtle and the snake entwined to form the so-called creation symbol of the north are shown in this detail of a mural in the Great Tomb (6th-7th century A.D.) at Uhyon near Pyongyang. Portrayed elsewhere in the tomb are the other fantastic animals symbolizing the cardinal points of the compass: the dragon, the tiger and the phoenix.

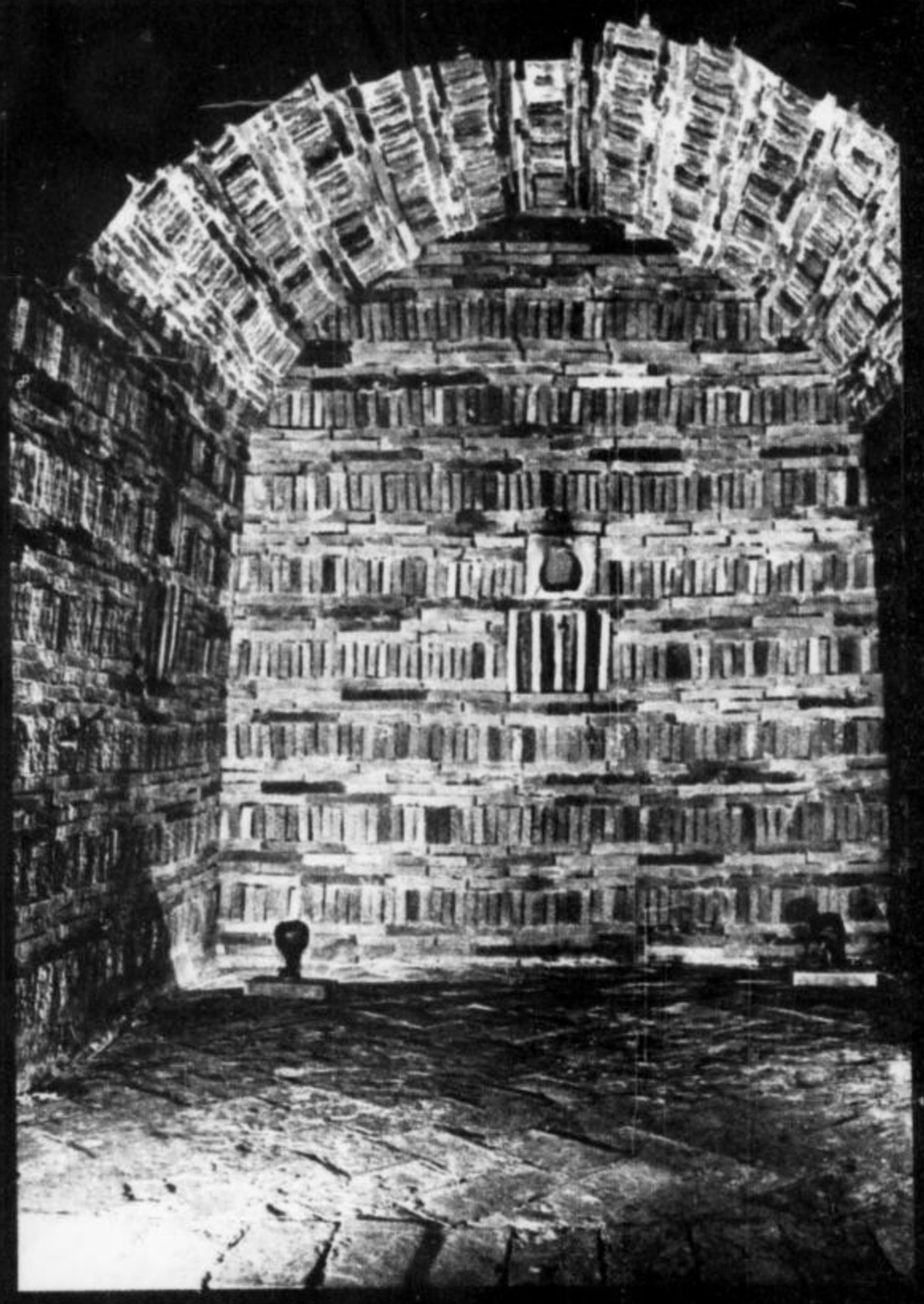
Its mane bristling, its long curved tongue protruding from its mouth, the Heavenly Horse (near right) bears the dead to the next world. This remarkable painting adorns a birch bark saddle flap discovered in a 6th-century tomb at Kyongju, once capital of the historic State of Silla. In Siberia and Manchuria the birch was a sacred tree whose wood was used for the shaman's staff. The word *tan,* meaning a variety of birch, appears in the name of the mythical founder of Korea, Tan'gun.

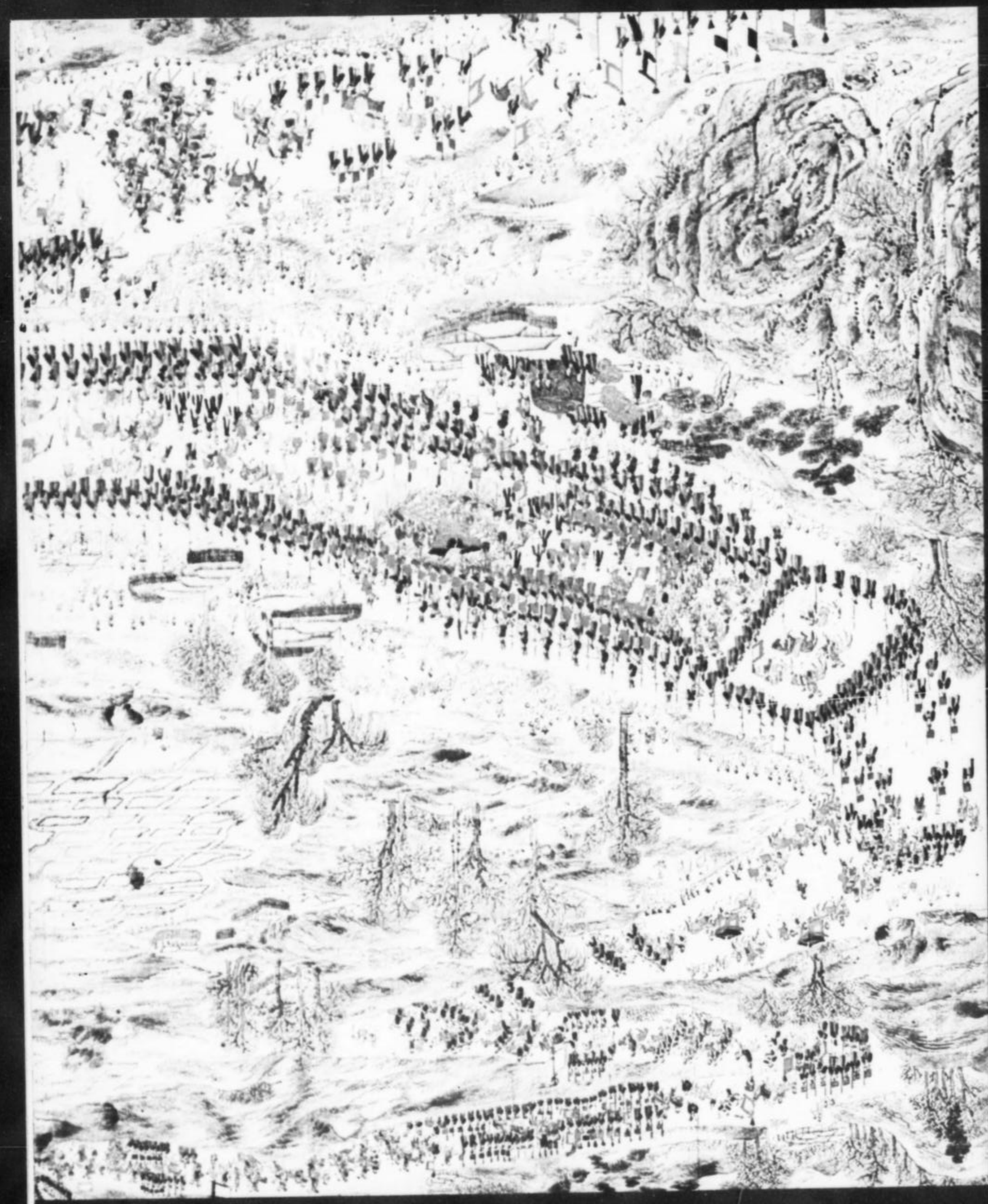
Far right, the tomb of King Muryong, ruler of the Kingdom of Paekche in the early 6th century. The discovery of the tomb at Kongju, southwestern Korea, in 1971, was a major find since unlike most tombs of its kind it had not been plundered and contained a rich store of gold, silver and bronze objects. The tunnel-shaped burial chamber, 4.20 metres long and almost 3 metres high, is lined with bricks decorated with lotus designs.

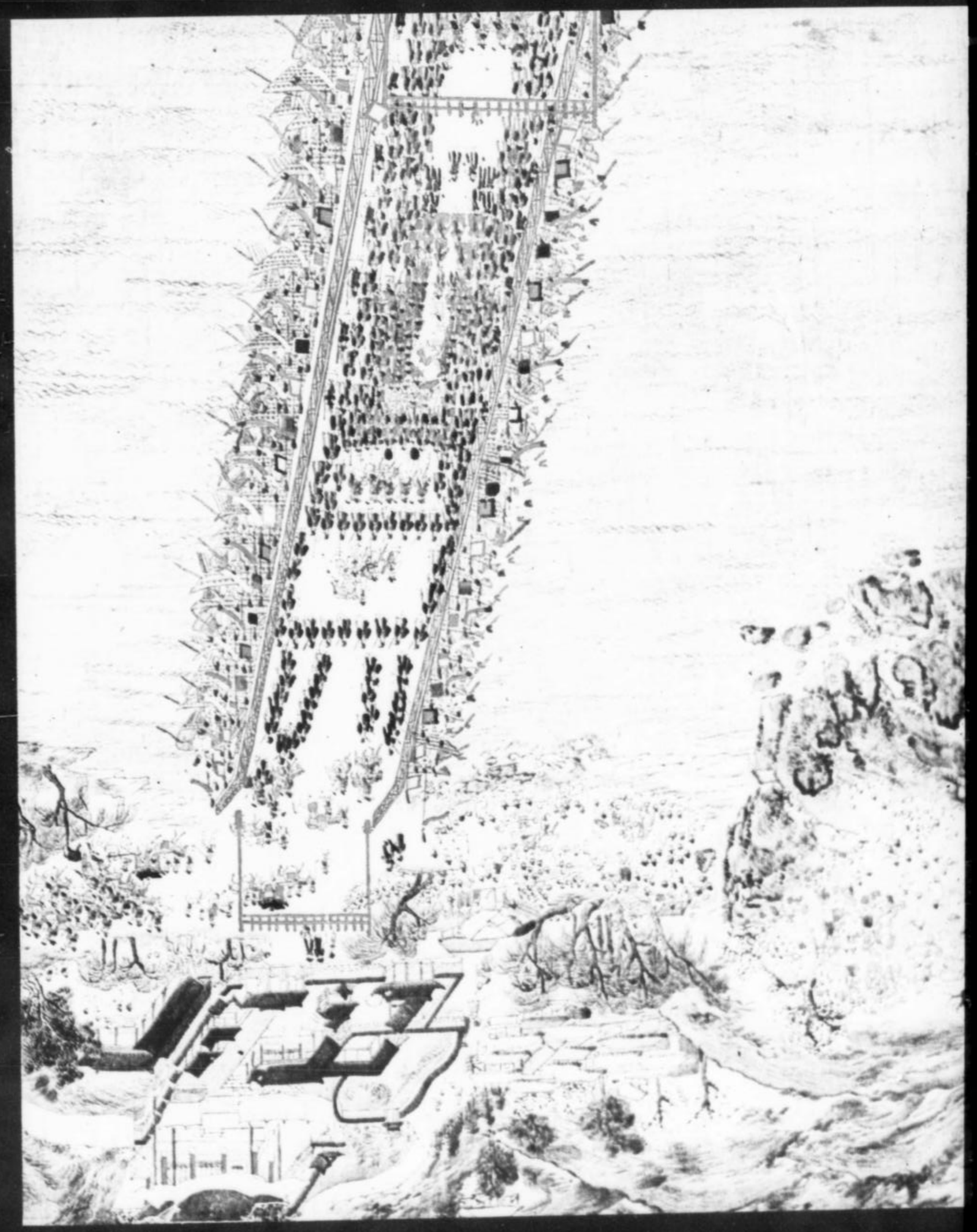
Photos © Kim Tae-byok, Seoul

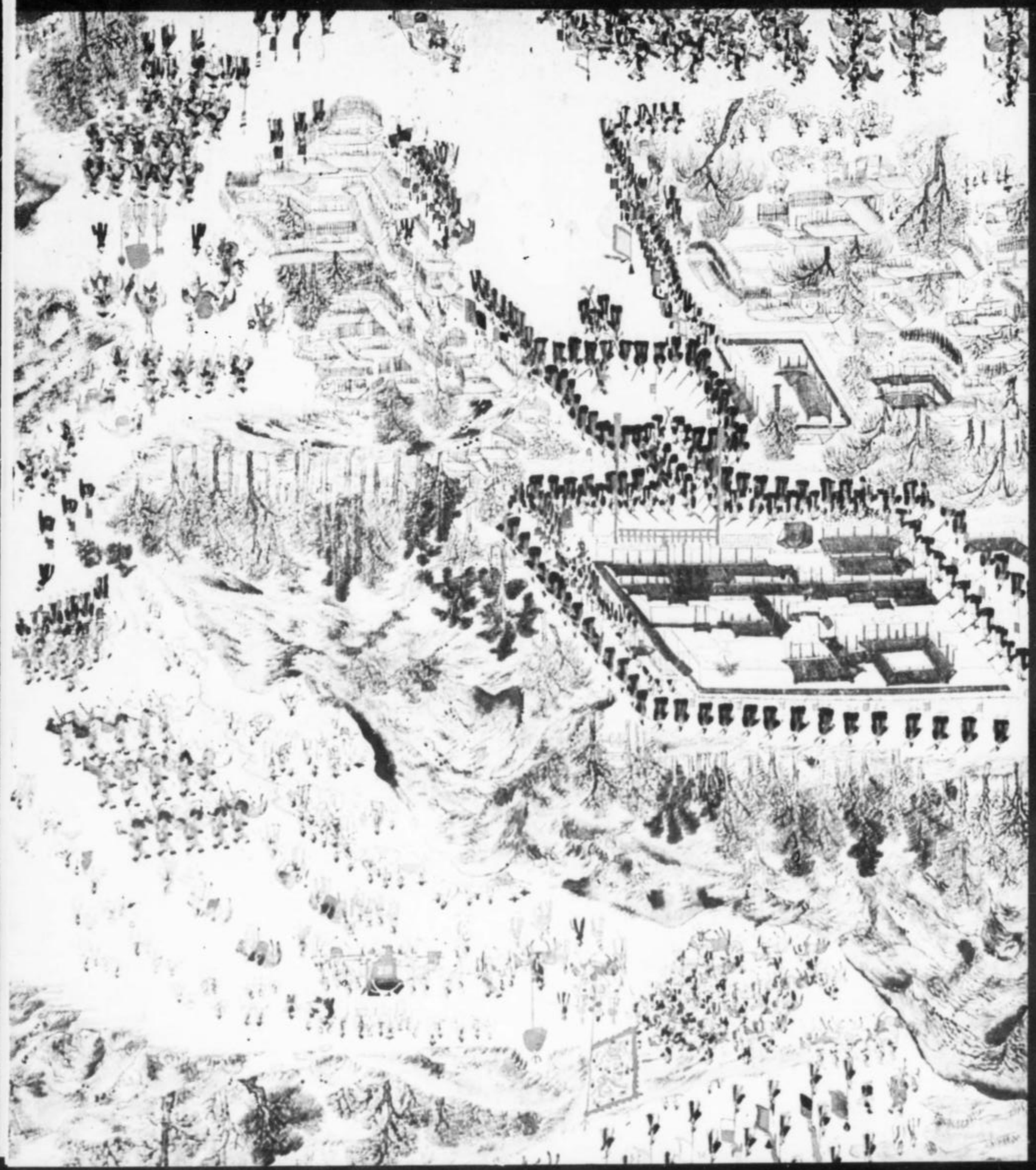


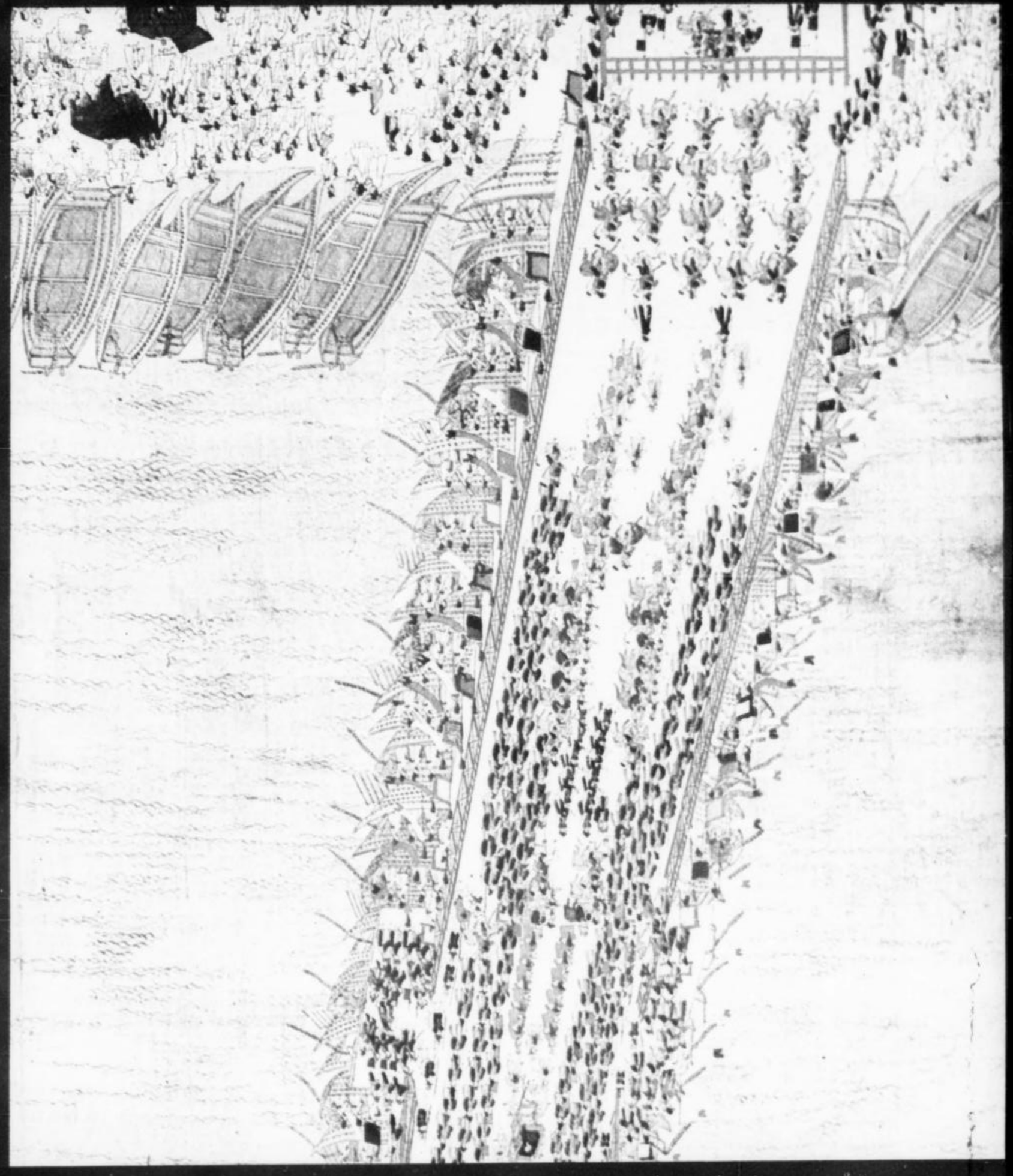


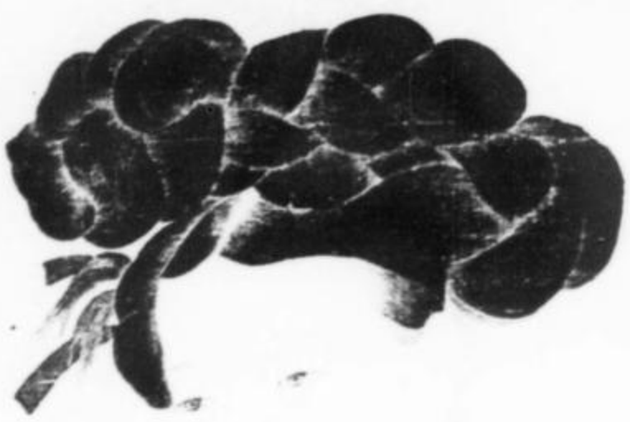












Centre double page

In 1789 the scholar-architect Chong Yag-yong drew the plans of this pontoon bridge across the Han River at Seoul. Thirty-eight boats were commandeered and on them were laid a thousand planks; a dozen other vessels moored on each side of the bridge completed the construction. Here, a contemporary painting shows the scene as a royal procession crosses the bridge. The works of Chong Yag-yong (1762-1836), also known as Ta-san, reflect the influence of an important intellectual movement in Korea whose adherents are known as the *Sirhak* movement had an impact on many sectors of Korean life. The founder of a royal academy, Chongjo was noted for his love of the society and nation, such as the promotion of administrative reform, education, industry and technology. *Sirhak* scholars also carried out research into the history, geography and language of Korea and conducted critical examinations of the Confucian Classics.

It was customary for a Korean ruler to pay his respects to his ancestors several times a year, bearing food and drink to their tombs. In this painting on a screen King Chongjo, escorted by an entourage of courtiers and attendants, is shown on the way to the grave of his father, Prince Sado. During the reigns of Chongjo and his grandfather, Yongjo, which spanned the last three-quarters of the 18th century, the *Sirhak* movement had an impact on many sectors of Korean life. The founder of a royal academy, Chongjo was noted for his love of literature and concern for social reform.

Photos © Korean Overseas Information Service, Seoul

Colour page left

Top left, bronze water pourer or sprinkler with silver inlay and fittings. Dating from the 11th or 12th century, it contained drinking water used in Buddhist ceremonies. The design of willow trees and swimming ducks is typically Korean.

A woman toys with an ornament in this delicately executed painting (114 cm by 45.2 cm) on silk by Sin Yun-bok, who portrayed many humorous and realistic scenes of everyday life in late 18th-century Korea in works which typify Korean taste and feeling at that time.

A member of the royal house of the Yi dynasty, the 16th-century artist Yi Am was renowned as a painter of flowers, birds and animals. This dog with three puppies beneath a tree, far left, is one of the few authenticated examples of his work.

Photos © Han Sok-hong, Seoul

Covered by a mound 12.7 metres in height and forty-seven metres in diameter, tomb 155 at Kyongju is known as the Tomb of the Heavenly Horse because a flying horse is depicted on a birch bark saddle flap found among its burial objects. Study of the tomb and the goods in it has shown that they date from the early sixth century.

All the organic material in the coffin has disappeared, but gold and glass objects have survived intact. The male occupant of the tomb wore a girdle and a magnificent gold crown, the fourth to be recovered from Silla tombs in Kyongju. Its wearer must have been a king of the Old Silla period.

The crown consists of a circlet of cut sheet gold with three tall uprights at the front, each with stylized branches like a tree. The uprights are flanked by two upright ornaments shaped like antlers. The tree form and the antler symbols reflect shamanistic beliefs widely spread across the Siberian steppe. Strands of comma-shaped jade pendants are suspended from the upright ornaments of the crown by means of twisted gold wire. A shimmering effect is added by numerous gold spangles attached to the uprights. A pointed cup of cut sheet gold with open-work designs was placed outside the coffin. Two wing-shaped frontal ornaments for a cap, made of pure gold, were also found in the tomb.

A wooden chest at the eastern end of the burial chamber contained a rich array of burial gifts including horses' trappings, vessels of gold, silver, bronze and iron, lacquerware and pottery. A pair of saddle flaps for a horse were made of several layers of birch bark sewn together with leather trimming. A galloping white horse with streaming mane and tail is painted in the centre, surrounded by a band decorated with a floral pattern painted in red, black, white and green (see colour photo page 25). Wings sprout from each hoof. The saddle flap is a prized example of a unique form of Silla painting; nothing like it has survived anywhere else in east Asia.

To the east of the Tomb of the Heavenly Horse is tomb 98, the largest tomb in Kyongju. It is known as the Great Tomb at Hwangnam, after the area of Kyongju in which it is situated. It consists of twin mounds set on a north-south axis and joined together at their base. It is twenty-three metres high and 123 metres long, and was excavated between July 1973 and October 1975.

The northern mound contained the tomb of a female, probably the wife of the male buried in the southern mound. The structure of the mound suggests that she had outlived her husband. She wore a magnificent gold crown, a gold girdle, five pairs of gold bracelets, two necklaces made of glass beads and gold ornaments. Three pieces of evidence confirm that the tomb contained a woman: the fact that there was no sword in the coffin; the presence of a large ornamental clay spindle-whorl; and above all the inscription "Girdle for the Lady" scratched with a needle on the ornamental silver end of a girdle found in the gift chest. A striped glass goblet probably manufactured in the Mediterranean region was also found.

The husband of the royal female wore a gilt-bronze crown and a gold belt with fewer pendants than the one worn by his wife. The tomb dates from the second half of the fifth century, and since Silla had no ruling queen until the seventh century, it is puzzling that the male occupant, who should have been a king, wore a bronze crown and his wife a gold one.

A huge array of iron weaponry, however, was found in a pit connected to the husband's grave, while a late Roman glass ewer and cup were found inside the gift chest.

A skeleton identified as that of a girl around fifteen years old was found outside the wooden chamber of the male burial. She may have been killed and thrown into the pit as a human sacrifice. According to the *Samguk Sagi,* King Chiiung of Silla officially forbade the practice of human sacrifice in 502 A.D.

Finds from these three royal tombs throw into relief the lineage and sophistication of early Korean culture, and especially its genius for metalworking. The discovery of these spectacular intact burial sites in Korea can best be seen in perspective when compared with finds from contemporary Chinese and Japanese tombs. The artistic riches of these tombs reveal eastern Asia as a cultural mosaic, in which high culture was achieved in a variety of forms among different ethnic groups.

■ **Kim Won-yong**

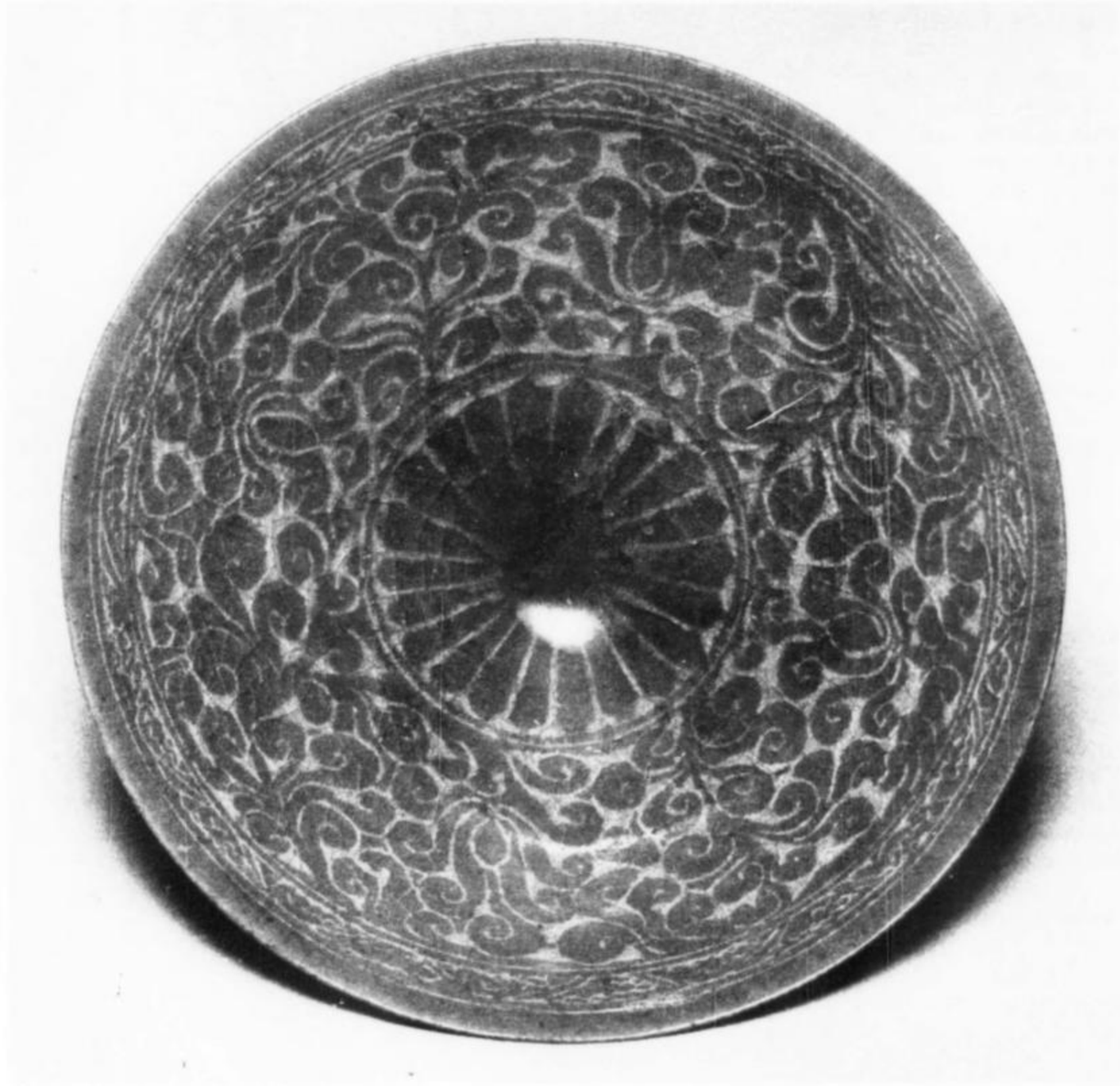


Photo © National Museum of Korea, Seoul

Celadon bowl with inlaid decoration of arabesque designs and chrysanthemums (mid-12th century).

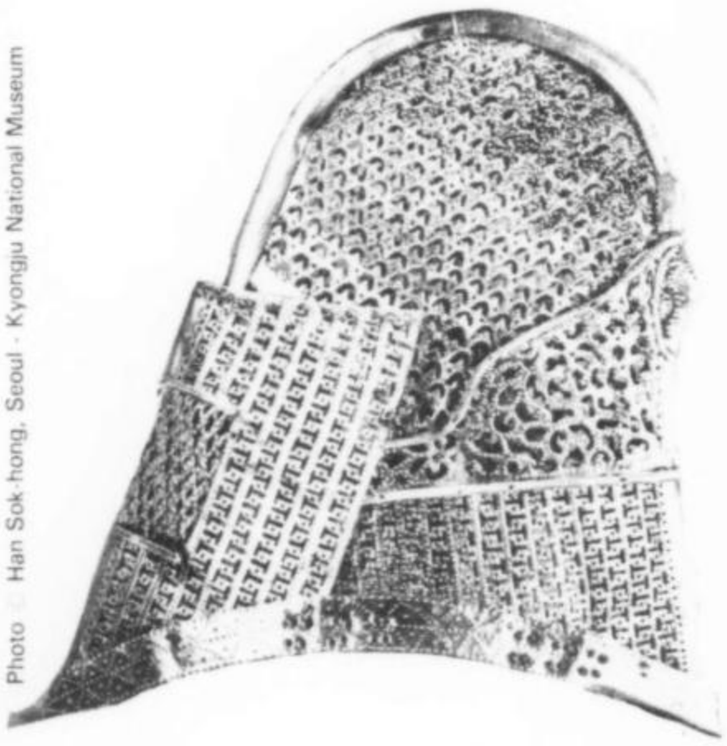


Photo © Han Sok-hong, Seoul - Kyongju National Museum

Intricately worked gold cap (5th or 6th century) was discovered in the Tomb of the Heavenly Horse at Kyongju. Probably worn inside a crown, it consists of four pieces of gold plate, each bearing a different openwork design.

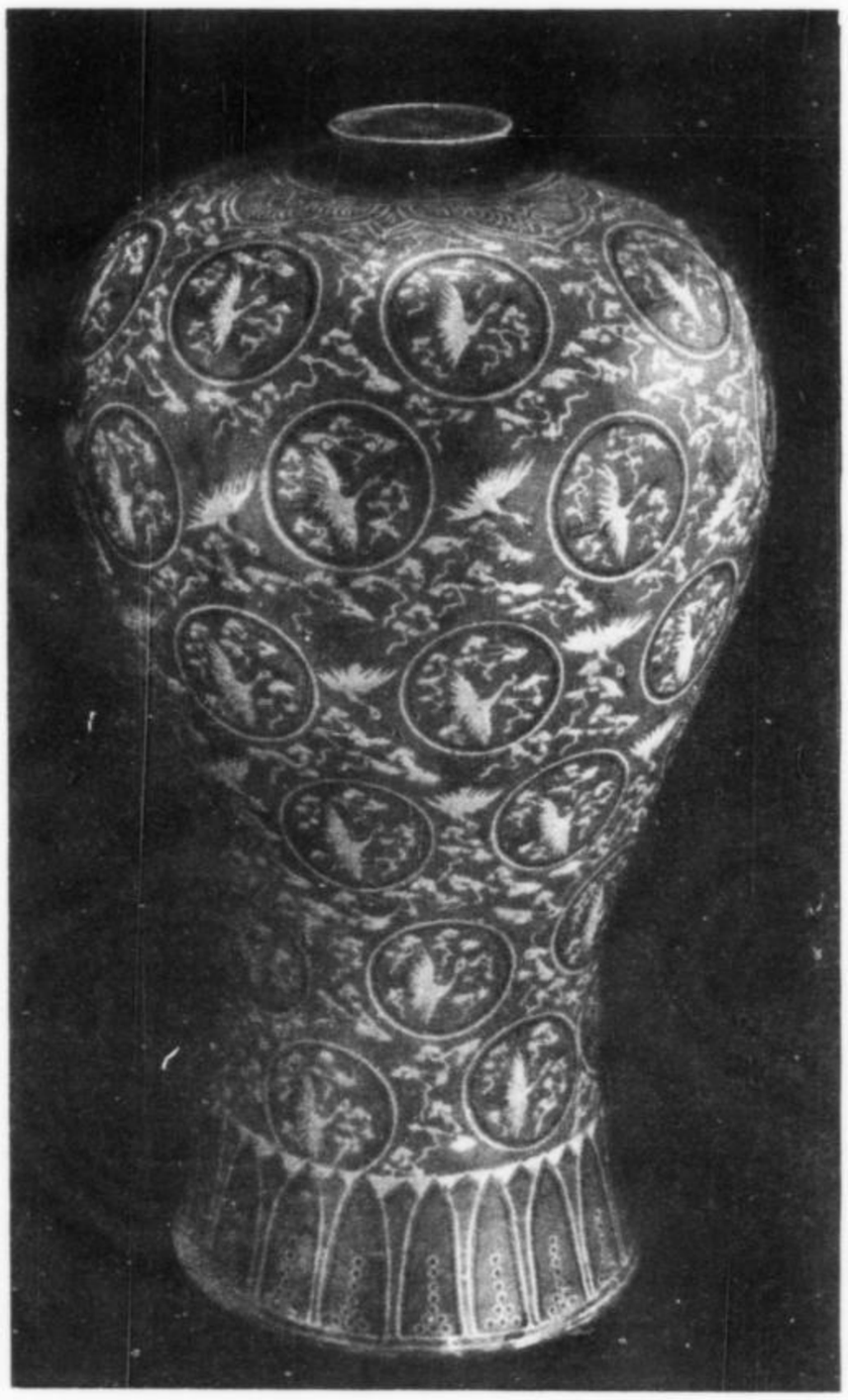


Photo © Musée Cernuschi, Paris - Kansong Museum, Seoul

A sprig of foliage from the plum-tree, symbol of youth and purity, was placed in this celadon *maebyong* vase, known as the Thousand Crane Vase because of its incised decoration of roundels depicting cranes flying upwards amid clouds. Produced in the 12th century, it is one of the finest specimens of incised ware made under the Koryo dynasty.

Immortal clay

The traditional pottery of Korea

by Chong Yang-mo

Photo © Lee K.M. Seoul - National Museum of Korea, Seoul

White porcelain jar with grape design painted in copper red beneath the glaze. (17th or 18th century).

Photo © Han Sok-hong, National Museum of Korea, Seoul

The introduction of Buddhism in Korea led to the practice of cremating the dead and burying their ashes in funeral urns. Stoneware funeral urn above, dating from the 8th or 9th century, is decorated with stamped designs and covered with green glaze.

THE history of Korean pottery goes back to neolithic times which saw the emergence of a form of pottery, fired at a low temperature, and known as combware from the close, toothcomb lines with which it was decorated. Then, around 100 B.C., followed Kimhae pottery which was fired at higher temperatures and from which the toothcomb designs gradually disappeared. During the Bronze Age and at the beginning of the Iron Age in Korea, black, red and grey pottery appeared.

Great progress was made during the period of the Three Kingdoms. Dark grey in colour, the pottery of this period, though much finer and lighter than that of earlier days, was neverthless very robust since it was fired at temperatures of up to 1,200 degrees centigrade. Pottery from the kingdoms of Koguryo (37 B.C.-668 A.D.) and Paekche (18 B.C.-660 A.D.) is rare, but from the kingdom of Silla there remain many fine pieces which were the forerunners of the famous celadons of Koryo. Most of them were recovered from tombs, some of which contained hundreds of pieces including cups, vases with rounded bases, statuettes, models of chariots and animals. Some pieces were decorated with geometric designs.

The techniques of celadon glazing and of white porcelain manufacture had been brought into Korea from China during the Three Kingdoms period and advanced techniques developed under the T'ang dynasty in China reached the south-west corner of the peninsula during the ninth and early tenth centuries. Both the celadons and the white porcelains of the period up to the eleventh century reveal immense technical progress. Workshops and kilns were under the control of the royal court and systematic experiments were made with the techniques of the various Chinese schools of pottery. As a result, Korean craftsmen were able to produce an enormously varied range of pottery.

During the eleventh century Korean pottery of the Koryo dynasty was approaching perfection. Contemporary Chinese chronicles describe Korean glazing in particular as the most perfect of the day. Gradually the ceramic art of Koryo was throwing off the bonds of Chinese influence and acquiring an individuality of its own. With its original shapes and ornamentation of great beauty and its light, transparent glazes, Koryo pottery reached its apogee in the middle of the twelfth century. New decorative techniques were adopted—mouldings, metal inlays and various other embellishments on ever finer clays. This brilliant phase was to continue until the thirteenth century when decline and decadence set in with the Mongol invasions, even though the latter brought with them new techniques.

Under the Yi dynasty, Korean ceramic art experienced a new resurgence, notably in white and blue porcelains for which grey clay and kaolin were used. Kilns were supervised by the government —those of Kwanju, near Seoul, supplying the court and aristocracy while the regional kilns supplied the lesser nobility and local administrations. The kilns were situated along an eighty-kilometre stretch of the river Han and were fuelled by timber from neighbouring forests, with disastrous consequences for the environment of the region.

After the Japanese invasion towards the end of the sixteenth century, Korean ceramic art fell on difficult times. Many Korean potters were carried off to Japan where they gave a new impulsion to Japanese ceramic art. In Korea, only white porcelain subsisted. Later, its quality and style changed and flowers and plants became part of the ornamentation. Korean pottery of this period, of great simplicity, originality and beauty, was much appreciated by scholars and Korean white porcelain would continue to bring beauty into the lives of many throughout the long, slow decline of the Yi dynasty. ■

CHONG YANG-MO *is chief curator at the National Museum of Korea, Seoul. He is a specialist in ceramic art, a subject on which he has written widely.*

The stones of Sokkuram

A cornucopia of Buddhist sculpture in a 1200-year-old temple-grotto

by Hwang Su-young

'TEMPLES were as numerous as the stars in the sky and pagodas as a flock of geese on the wing.' With these words an ancient chronicle describes the spate of building which accompanied the spread of Buddhism in Korea, where it was introduced from India via China in the latter half of the fourth century, later to become the State religion.

As temples increased in number there was a corresponding development in ancient Buddhist art. The period from the latter half of the seventh century through the eighth century is known as the golden period of Buddhist art in Korea. It was a period of close contact with India and China where many young students and monks went to pursue their studies.

Kyongju was the capital of Korea at the time and naturally many temples were constructed there. Of those which survive today, Pul guk-sa Temple and Sokkuram Temple are perhaps the most famous. Both of these temples were built in the eighth century A.D. on T'oham Mountain which lies to the north-west of Kyongju. They were built by the same man, Kim Tae-song.

Tradition has it that during the Silla Dynasty Kim Tae-song was reincarnated as the son of a chief minister of state because of his merits during a former existence. When he was a full-grown man he liked to hunt on T'oham Mountain. During one of these hunts he caught a bear. When the hunt was over he spent the night in a country house at the foot of the mountain. In a dream during the night the bear appeared to him in the form of a ghost and began to attack him. Greatly alarmed, Tae-song appealed to the bear for forgiveness and promised to build a temple on the spot where he had caught the bear.

The tradition states that Tae-song was converted to Buddhism as a result of this incident and that afterwards he built Pul guk-sa Temple and Sokkuram Temple, one in memory of his parents during his former existence and one in memory of his parents during his second existence.

Kim Tae-song was born in 700 into the royal Kim family and served King Kyong-dok for a period of five years between 745 and 750 as chief minister of state. When he finally left office in 750 he devoted himself in accordance with the royal command to the construction of the two temples. He personally supervised the actual construction work until his death in 774, and the old ▸

Photo Masakatsu Yamamoto © Kodansha International, Tokyo, Japan

Detail of one of the ten disciples of Buddha carved in relief on the granite walls of the main hall of Sokkuram temple. The entire figure is 2.18 metres high.

HWANG SU-YOUNG *is professor of Buddhist arts and dean of the Graduate School, Tongkuk University, Seoul. A former director of the National Museum, Seoul, he is one of the contributing authors of* Korea, its Land, People and Cultures of all Ages, *Seoul, 1963.*

Photo Masakatsu Yamamoto © Kodansha International, Tokyo, Japan

This huge granite Buddha, over 3 metres high, sits on a lotus pedestal at the centre of Sokkuram temple. The right hand lies palm downward, in the "calling the earth to witness" gesture, signifying Buddha's activity in the universe. The left hand is laid palm upwards on the lap, signifying meditation. A figure of majesty, serenity and peace, the statue is a masterwork of sculpture of the Unified Silla period.

records tell us that the State completed the project.

We know that Kim Tae-song was a member of the royal family and we can presume that he was very close to the king himself. We can also surmise that he built these two temples to honour the king, the royal family and his own ancestors.

The T'oham Mountain, on which Sokkuram Temple stands overlooking the sea, formed a natural barrier protecting the Kingdom of Silla and its capital Kyongju from foreign invaders, and it became customary to offer sacrifices on its eastern peak for the prosperity of the nation. The remains of the fourth king of the Silla Dynasty, King T'halhae (57 - 79 A.D.), who was held in popular belief to be the "strong warrior without a single enemy under heaven", were transferred there, and he was venerated as the god of the mountain.

A number of important historical remains are concentrated in the area where the waters from T'oham Mountain meet and flow down into the sea: Kamun-sa Temple, which was built at the end of the seventh century for the purpose of protecting the nation, the tomb of King Munmu, and a ceremonial rock used by the people for rites in honour of the deceased king.

The most important of these historical remains is the tomb of King Munmu. Munmu reigned in the middle of the seventh century and was the monarch responsible for the establishment of the kingdom of Unified Silla. His dying wish was that after cremation he should become the Guardian Dragon of the Eastern Sea and a protector of the nation. It was his hope that his example would teach the people to hold Buddhist doctrine in high esteem. The ashes of King Hyosong (734-741 A.D.) were also scattered in this area, which is thought to have been a common burial ground for the royal Kim family. Another interesting fact is that Sokkuram and the main Buddha figure in it face directly south-east. This is probably no chance arrangement. One feature that distinguishes Sokkuram from other stone cave temples in India and China is that Sokkuram is man-made. In other words, the builders were able to site it in the direction of their choice.

Sokkuram consists of a main domed hall, a small square anteroom, and a fan-shaped connecting corridor. The main hall was constructed in granite and the smaller anteroom was built in wood with a tiled roof. The method of construction follows long-established Korean tradition in this form of building, and it is especially noteworthy that similar temples in India have the same floor plan.

Eight standing figures carved in granite adorn the walls of the anteroom. The solemn-faced Deva kings guard the corridor. The entrance to the main hall is supported by twin eight-sided pillars which are decorated with lotus designs. In the centre of the domed hall is the main Buddha figure, seated on a large circular table, also decorated with lotus designs, and surrounded by fifteen other figures including his ten principal disciples.

The main figure, 3.26 metres tall and in a sitting posture, breathes a sense of peace, serenity and harmony, making it one of the great Buddhist art treasures in the world. Ten niches are cut into the wall just below the dome, and these niches hold ten seated Bodhisattvas. It is noteworthy that with the exception of the main figure and the ten seated Bodhisattvas all the other figures are carved on granite slabs.

Traditionally the main figure was regarded as the Buddha Sakyamuni, (the "Sage of the Sakya dynasty") but recent research reveals that it is in fact Amitabha, the Buddha of infinite light.

The influence of Buddhist art, stretching all the way from India, resulted in the creation of a great masterpiece in Korea in the middle of the eighth century. Sokkuram, though small in area, has been the guardian for more than twelve hundred years of priceless art treasures, and the credit for preserving these treasures must go in large part to the strong faith and devotion of so many Buddhist believers down the centuries.

In our own time the preservation of the art treasures in Sokkuram has been no easy task. First of all, a section of the ceiling collapsed and a large scale operation had to be mounted to repair the damage. Then in 1960 scholars became aware of a whole series of problems concerning the conservation of these art treasures. Unesco provided invaluable assistance in seeking solutions to these problems, and repair work began in 1961 and continued for three years. In the years to come stricter supervision will be required, as well as research into the many aspects of the question of preserving these unique art treasures.

■ **Hwang Su-young**

Photo Masakatsu Yamamoto © Kodansha International, Tokyo, Japan

The figure of Avalokitesvara, the bodhisattva ("Buddha-to-be") of infinite compassion and mercy, is carved in granite on the walls of Sokkuram's main hall. He is portrayed with eleven heads, looking in all directions to save all creatures. The whole sculpture is 2.18 metres high.

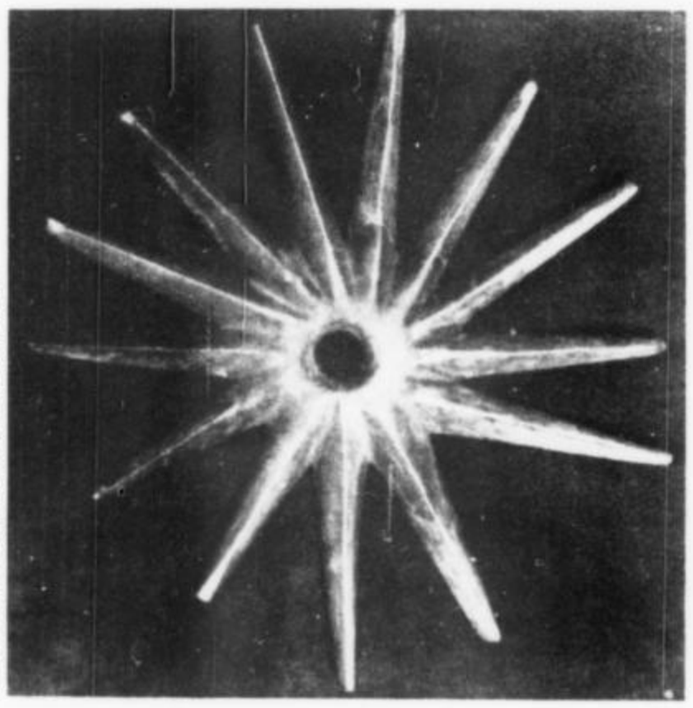


Photo © Bureau for Direction of Cultural Preservation, Democratic People's Republic of Korea

A practical approach to science

by Jeon Sang-woon

FROM ancient times right up until the late nineteenth century, Korean science and technology developed within the shadow of the sophisticated civilization of the neighbouring giant China. Yet the science and technology introduced from China came to a land already technologically experienced in certain fields. The men who lived in the Korean peninsula around the tenth century B.C. had, for example, already reached a high level in metal-working and alloy-making. They knew something about the advanced techniques of zinc-copper alloy-making, a technology that differed from that of ancient Chinese bronze-making methods.

With this technological tradition behind them, the Koreans did not simply accept innovations imported from China. They modified and adapted them to local needs and conditions and this often gave rise to new inventions and discoveries. In metal-working, for example, this national gift for assimilation and adaptation was to lead to the invention, two centuries before Gutenberg, of the first movable metal type, in astronomy to the building in 647 A.D. of the Ch'omsongdae observatory, the oldest known astronomical observatory extant in East Asia, in meteorology to the invention in 1441 of the world's first rain gauge, in alchemy and medicine to the compilation in 1433 of the *Hyangyak chipsongbang,* the great collection of native Korean prescriptions.

In 108 B.C. the Han dynasty established the Chinese colony of Lo-lang in north-western Korea and transplanted Chinese metallurgy there. Under the influence of Chinese artisans Korean metal-workers, in the region of the lower Naktong river, rapidly developed new iron smelting techniques which were so successful that even the colonists of Lo-lang and the Japanese purchased Korean iron.

Ornaments and decorations excavated from Silla tombs, especially golden crowns

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Photo Paul Bryant © Parimage, Paris

The oldest astronomical observatory of its kind still extant in the East, the Ch'omsongdae observatory was built at Kyongju in 647 A.D. Opinions differ as to the use made of this structure. Some scholars believe that instruments for observing the moon and the stars were installed on top of the tower, others that it was a dome observatory open to the sky, while a third theory holds that it was a gnomon used to determine the twenty-four agricultural seasons by the position and length of the shadow of the sun. Top left, a Korean Bronze Age radial axe.

and earrings, show that Korean metalworking made great progress in the fifth and sixth centuries A.D. Under the patronage of the royal family and the aristocracy, metallurgy gained momentum in the sixth and seventh centuries with the flowering of Buddhist culture, which encouraged the casting of gilt bronze Buddhist images.

Buddhist bells of incomparable beauty, which combined the functions of the traditional *chung* bell and the *t'o* bell of old China, bear witness to the innovative techniques developed by Korean artisans under the Silla dynasty. In producing these bells, the Silla artisans discovered a new bronze alloy which was highly acclaimed in the China of that time and which became so renowned that it was said that "Persian bronze is suitable for mirrors, but Silla copper (bronze) is superior for casting bells".

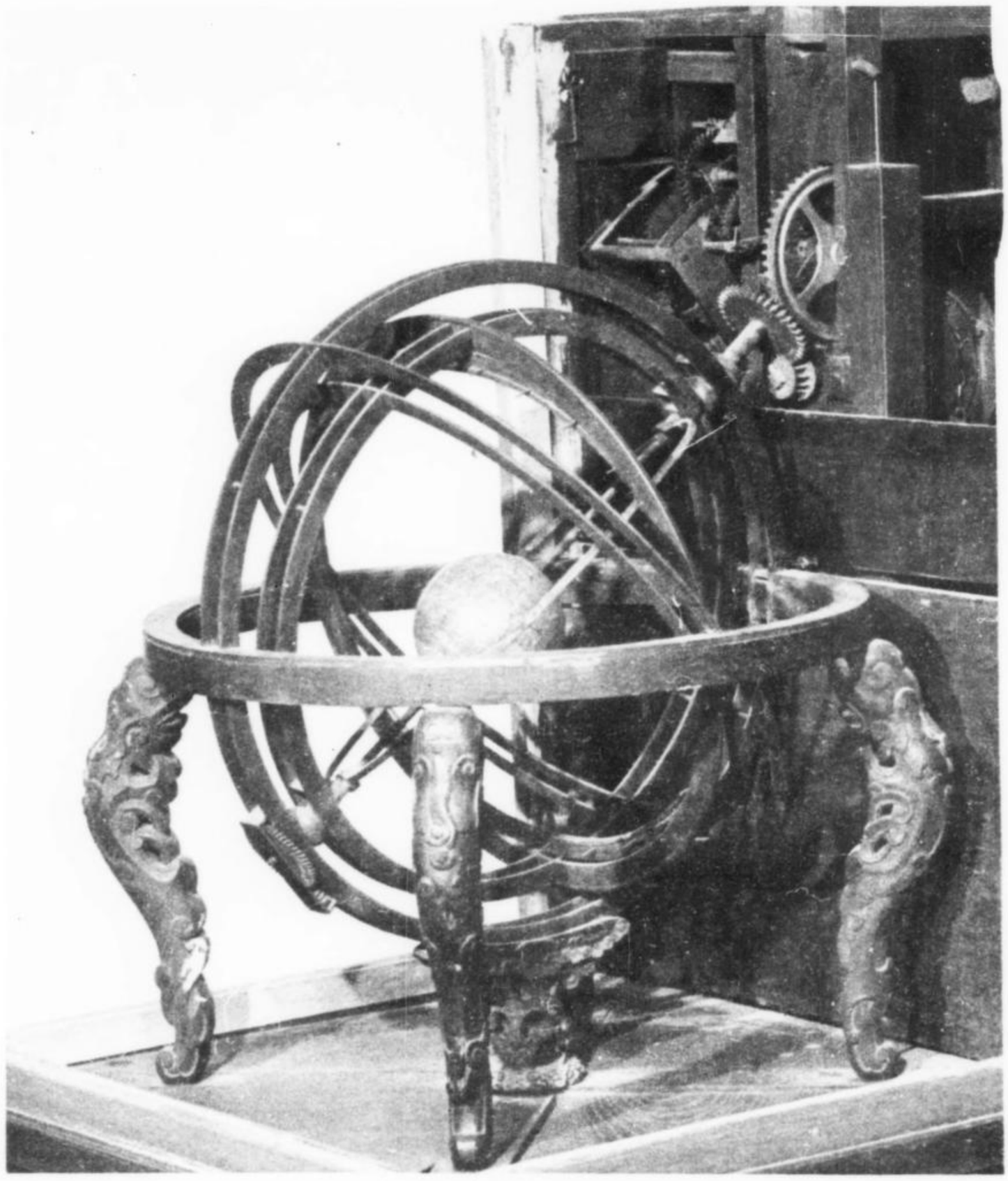
Astronomy is traditionally one of the first branches of science to be developed in ancient cultures. Efforts to regulate agricultural production, which was the staff of national life, combined with the influence of the ancient Chinese astrological concept that celestial phenomena were related to affairs on earth, early led to the development of *ch'onmun* (heaven study) in Korea. However, astronomy in ancient Korea remained essentially subsidiary to the Chinese mainstream, in spite of occasional original observations and independent researches.

In addition to their practical importance for agriculture, astronomy and calendar-making had special bearing on government. Astronomical charts were symbols of royal authority, and under the ancient dynasties the results of astronomical observations were recorded in the form of star maps. In Korea the first of these probably dates back to the Koguryo period. Star charts in the Koguryo tombs represent the constellations, as well as the sun and moon, on circles, placing the sun to the east and the moon to the west, and depicting the four "celestial palaces" centered on the cardinal points: the Blue Dragon, Black Tortoise and Snake, White Tiger, and Red Phoenix.

The armillary sphere was the basic astronomical instrument of ancient and medieval times in East Asia. First manufactured in China around the second century B.C., the instrument is believed to have been brought into Korea sometime between the Three Kingdoms era and the age of Unified Silla. Instruments similar in principle to the armillary sphere seem to have continued in use during the Koryo dynasty era.

The succeeding dynasties of Korea were extremely sensitive to meteorological and astronomical phenomena, especially solar and lunar eclipses. The prediction of solar and lunar eclipses was a part of the monarchic ritual which augmented the dignity of the rulers in the eyes of his people. Many, indeed, are the royal astronomers and meteorologists who lost their positions—or even their lives—because of failure to predict such occurrences correctly.

Developments in astronomy during the Three Kingdoms era (57 B.C. to 668 A.D.) are exemplified by the construction of the Chomsongdae observatory. A graceful,



1 Photos - Jeon Sang woon, Seoul

2 Photo - Science Museum, London

bottle-shaped stone tower, nine metres high, the observatory was built at Kyongju in 647, the sixteenth year of the reign of Queen Sondok. Its unusual shape indicates that it was built in accordance with the traditional round heaven, square earth theory of ancient China.

This observatory, whose shape embodies Korean aesthetic preferences, is of particular interest in several respects. First of all, the tower permitted the measurement of the sun's shadow, much in the way of a gnomon, to ascertain the season. Furthermore, the window facing the south opens in such a way that at noon on the vernal and autumnal equinoxes, sunlight covers the floor inside, whereas sunlight is completely absent at both solstices.

The Ch'omsongdae was probably the centre of astronomical activity of the Kingdom of Silla. It served as the meridian for astronomical observations throughout the Silla period and gave the standard point of reference for measurement of the four cardinal points and directions. The sides of the square stone slab on top faced the four cardinal points of the compass and diagonal projections from the corners pointed to the four intercardinal points ; the window faced due south. The area surrounding the Ch'omsongdae was paved with flagstones, presumably to prevent the erection of houses and thus secure an open space in all directions to facilitate unobstructed observations.

The systematic measurement of time in Korea is thought to have begun somewhere around the beginning of the Christian era and fragments of a sundial from the Silla era are still to be seen in the Kyongju Museum. The decimal sundial developed during the early years of the Yi Dynasty is one of the most accurate sundials ever invented by man.

But the usefulness of sundials is confined to sunny days and during the Three Kingdoms era the clepsydra, or water clock, came to be regarded as a more useful and reliable time indicator. The first clepsydras were made in 718.

When, in 1392, the Yi dynasty moved the capital to Hansong (present-day Seoul), there arose the need to install a new standard clock, and accordingly a *kyongnu* (night clepsydra) was installed in 1398 in the centre of Seoul. Together with the new clepsydra a belfry was erected to ring the standard time throughout the royal capital.

3

The armillary sphere was the basic astronomical instrument of ancient and medieval times in East Asia. Armillary spheres were introduced into Korea from China and the armillary clock reached a high standard of perfection during the reign of King Sejong. (1) Detail of an armillary clock built in 1669 and now preserved in the Koryo University Museum, Seoul. It incorporates the principles of the Western striking clock as well as features of Chinese and Arabic clock-making traditions. King Sejong's reign also saw the invention, in 1442, of the world's first rain gauge and in the same year the first network of rainfall measuring stations in the world was established. (2) Korean rain gauge made in 1770 exactly in accordance with the specifications established in 1442. Systematic wind observation was also developed under King Sejong. A cloth streamer, attached to a bamboo pole and placed on a stone column, indicated wind direction and velocity. (3) Stone anemoscope stand dating from the 17th century.

Incense sticks or joss sticks were also used in Korea for measuring time, especially in Buddhist and Taoist temples. From an early period attempts were made to measure time so that the various rituals and ceremonies might be punctually performed. In the course of their rites, the Buddhist monks learned that incense sticks burn at a constant rate. They eventually found incense sticks to be more reliable for accurate measurement of time than incense powder.

Meteorology in the modern sense had its start in Korea in the early Yi dynasty era (fifteenth century). Until then a system presumably devised in the Koryo era was used, whereby the depth of rainfall was gauged, and the statistics thus obtained were consolidated by the provincial governors and reported to the Board of Taxation, which periodically recorded the figures. At first this practice was not conducted at regular intervals but only during the farming seasons or in times of severe drought when the method was used to measure the aridity of the soil.

The first recorded mention of this measurement appears in the *Sejong sillok* (veritable records of the King Sejong era), bearing the date May 3, 1423: "It rained tonight, penetrating earth to the depth of approximately 1 *ch'on* (about 2.13 cm.)."

Heavy rains and severe droughts alternated around the year 1441, rendering impracticable the conventional methods of measurement. The difficulties encountered led to the invention of the more scientific method of collecting rainwater in a vessel specially shaped for the purpose of accurate measurement—the world's first rain gauge.

The second most important meteorological phenomenon for agriculture after rain is wind velocity and direction. Thoroughly familiar with the influence of wind on farm crops, the meteorologists of the Yi dynasty took special care to observe wind direction closely. An anemoscope, called a *p'ung-gijuk* was set up for that purpose. There is no clear indication when the observation of wind direction was actually started, but the wind gauge was erected in the era of King Sejong to determine wind direction from the flow of a streamer.

Wind direction was expressed in one of twenty-four directions. The wind velocity is presumed to have been classified, as in the case of the volume of rainfall, into eight degrees. For instance, a wind strong enough to uproot a tree was referred to as a *taep'ung* (great wind) and one violent enough to strip the roof tiles was called *p'okp'ung* (violent wind). There are specific mentions of these two classes of wind.

Although the origins of alchemy are lost in antiquity, Chinese alchemy, with its emphasis on physical immortality, was more closely linked to medicine than to metallurgy. Alchemy in Korea, as was the case in China, was associated chiefly with the "way of the immortals" and was a branch of Taoist learning. For Koreans, as for Chinese alchemists, on the whole the transmutation of base to precious metals was not important.

Korean alchemy dates back to the fifth century, when, under the influence of Taoism, efforts were made to manufacture an elixir of immortality. But Koreans had a good deal of chemical and pharmacological knowledge well before that time. According to ancient Chinese documents Koreans produced medicine and poisons well before the birth of Christ.

There are many folk tales in Korean about men who spent their lives wandering deep in the mountains and valleys in search of several-hundred year-old ginseng. There is no doubt that these stories have a philosophical background in Chinese alchemy.

By about the eighth century, the folk pharmacological knowledge of Silla had been systematized into an academic discipline under Chinese influence. Eleven medicines of Korean origin were included in T'ao Hung-ching's pharmacopoeia. By the ninth century another twenty-two kinds were known to Japan and China.

In the tenth century, Koryo's medicine was further subjected to the influence of Indian medicine. With the rise of Buddhism Koryo was able to build a foundation for the development of its own pharmacology

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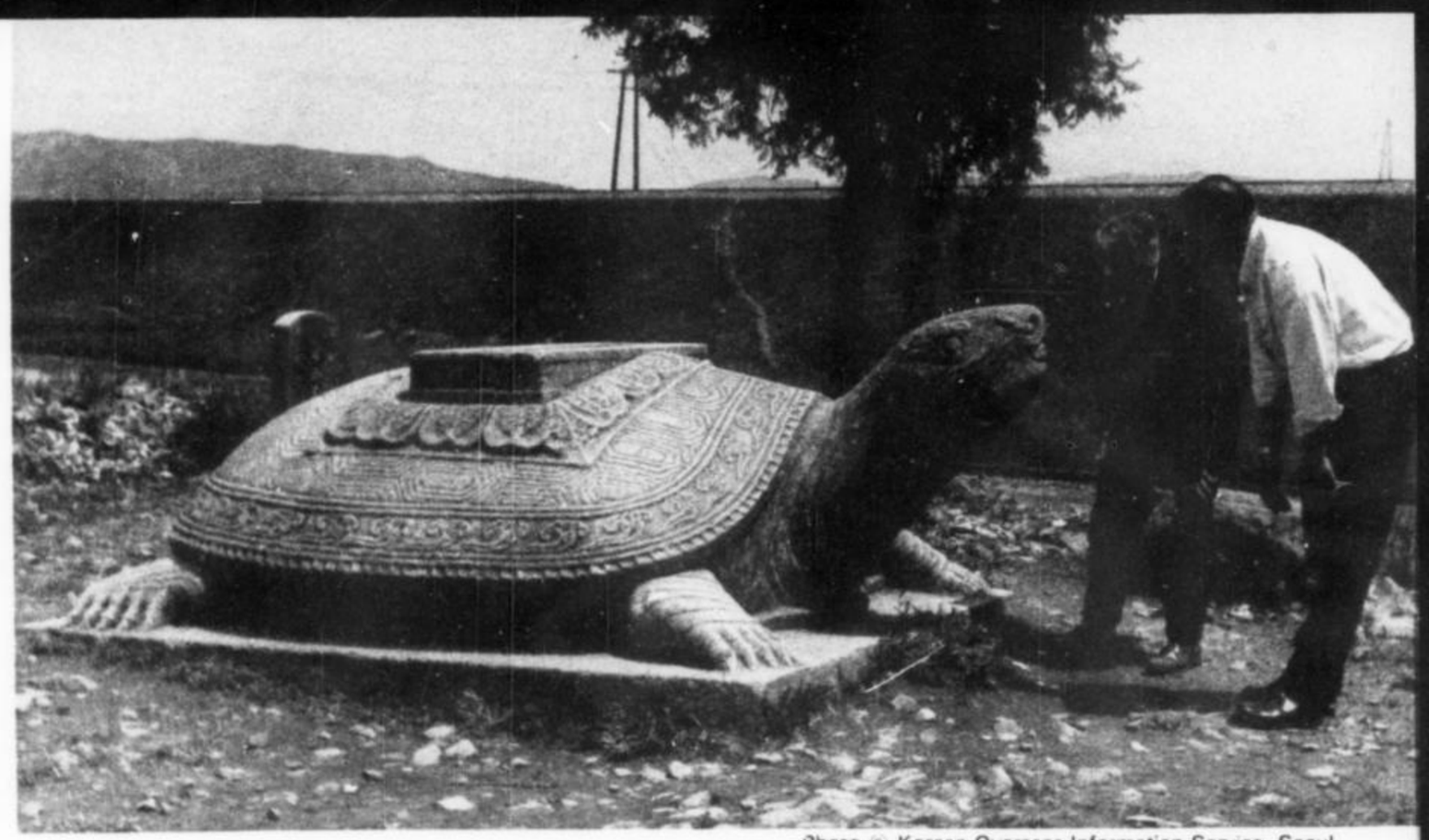


Turtle base of the now-missing centre stone of the tomb of King Kim In-mun at Kyongju (7th century).

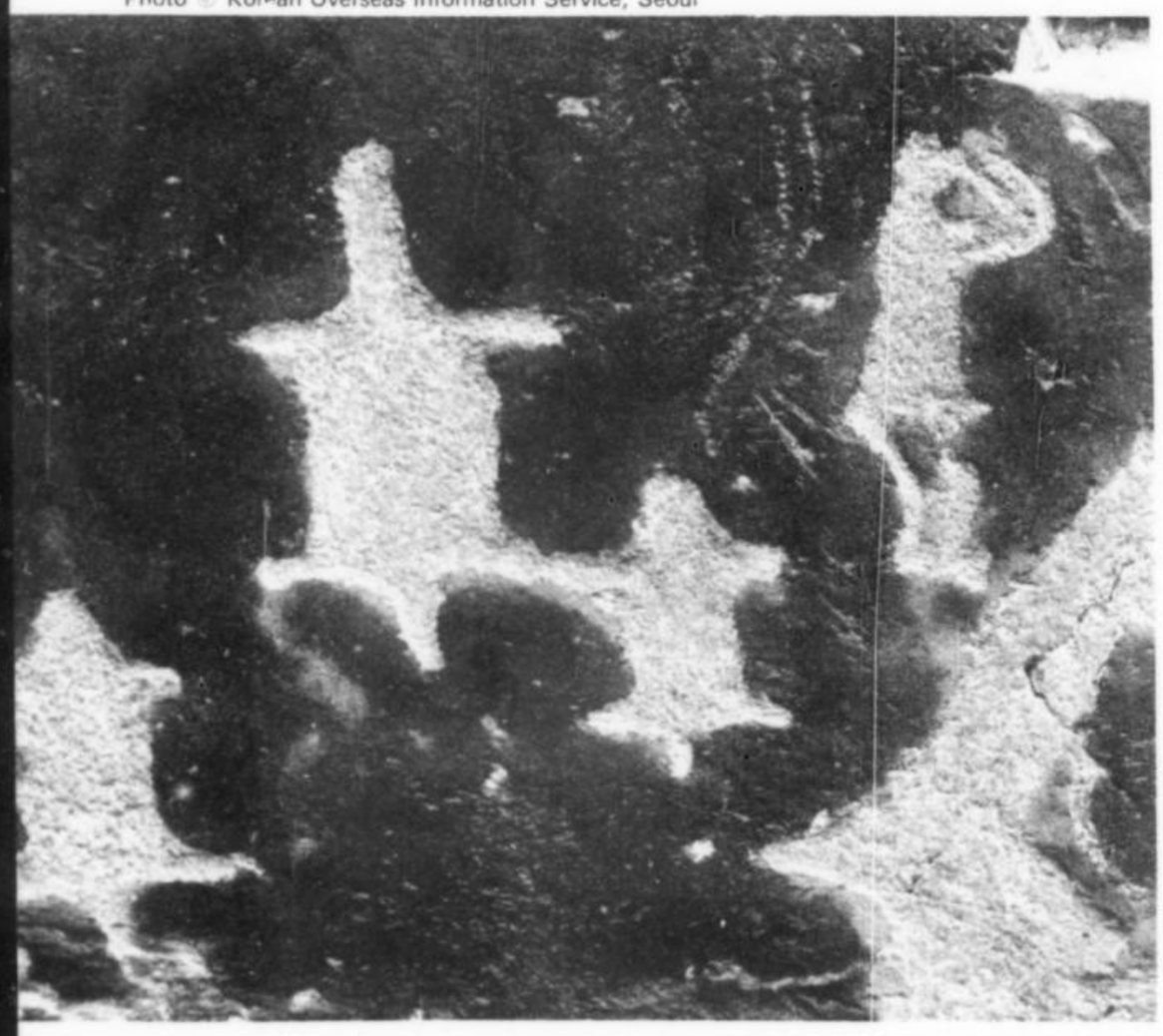
Photo © Korean Overseas Information Service, Seoul

Six good turns from the turtle

by Zo Za-Yong

Prehistoric turtle design on a rock at Pan'gu-dae, Ulsan, in the province of south Kyongsang.

Photo © Korean Overseas Information Service, Seoul



A few years ago a young Korean sailor named Kim Chong-nam fell overboard late one night while his ship was in mid-Pacific. For hours he struggled desperately to keep afloat until he suddenly came up against a huge turtle. He grasped the turtle's back, hauled himself on to it and lay there for thirteen hours until he was rescued by a passing Swedish ship.

During the middle of a recent, long, hot summer, another giant turtle emerged from the sea at Haeun-dae beach near the city of Pusan and crawled to a nearby tavern. A crowd gathered to watch it as it dug into the sand and laid its eggs. Interpreting this as a good omen, the tavern keeper ran to the turtle as it was making its way back to the water, hung her necklace around its neck and gratefully sent it on its way back to sea.

The Korean press latched on to both of these "human interest" stories with fascination, for the turtle is a reptile which commands strong affection and respect among Koreans. It has always played a major role in their folklore and traditions, while the wealth of symbolic meanings associated with it have for centuries inspired Korean sculptors and painters as well as the creators of folk art and handicrafts.

The turtle plays six major roles in Korean folklore. First and foremost it is the messenger of the water spirit, just as the tiger is the messenger of the mountain spirit (1). Sitting astride a huge dragon, the white-bearded Water Spirit (or Dragon Spirit) lives beneath the sea in the Dragon Palace and controls all affairs related to water, the sea, rivers, ponds, rain, storms and floods. The industrious turtle is the only messenger capable of communicating between the Dragon Palace and the earthly world.

Secondly, the turtle is a sacred animal of good omen, along with the dragon, the oriental unicorn (*Chi-lin*) and the phoenix.

Thirdly, it is one of the ten longevity symbols known as the *Sipchang-Saeng,* the others being the crane, the deer, the pine, the bamboo, the fungus of immortality, rock, water, cloud and sun. Of the three animals in this group the turtle is the only one believed to live ten thousand years.

As the guardian of the north, the turtle is also one of the four cardinal direction spirits, along with the blue dragon, the white tiger and the red bird.

In its fifth role, that of carrier of the eight trigrams, the turtle is one of the earliest holy animals in Oriental mythology. The trigrams were magic writings which were supposed to have been carried by an old turtle to the first man, *Pok-Hi* (*Fu-hsi* in Chinese) on the bank of the Lo Sui River.

(1) These two earthly spirits, together with the various heavenly spirits such as the Seven Stars, the South Pole Star, the Four Cardinal Stars, the Twelve Zodiac symbols, the Sun and Moon, the Wind and Clouds, Rain and Thunder, constitute the core of the Korean shamanistic tradition. Each of these spirits is associated by Korean people with a sacred animal.

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Photo © Korean Overseas Information Service, Seoul

Turtle-shaped celadon wine-flask decorated with a peony pattern in white against a dark green background (15th or 16th century).

Finally, the turtle is connected with divination through its hexagonal shell pattern which in ancient times was held to be of mysterious origin. This pattern gave rise to complicated philosophical interpretations, and a special fortune-telling technique was devised whereby the shell was heated and the crack-lines thus caused were analyzed.

Korean history is rich in stories illustrating the attributions of the turtle. The rescue of the lucky sailor Kim Chong-nam itself has a historic precedent. During the rule of the Paekche dynasty (18 B.C.-660 A.D.) a monk named Pangje was pushed from a boat by bandits while he was transporting temple treasures. He was saved by a mighty turtle that carried him to safety. The story of Chumong, the founder of the Koguryo dynasty, is a variation on the same theme. While fleeing from a band of assassins, he came to a river. At this critical moment the Dragon Spirit sent a multitude of turtles to form a bridge across which Chumong made good his escape.

According to one account, the six leaders of the six tribes of Kaya, who formed a Kaya dynasty (42-562 A.D.), were born from six huge eggs on "Turtle Mountain". The record states that the people of Kaya gathered at the Holy Mountain and sang the song that attracts turtles, and it is usually interpreted that the eggs were laid by a turtle.

During the Silla dynasty the famous beauty Suro was carried away by the Dragon Emperor. The story has it that a great crowd assembled, singing the song of the sea, as a giant turtle brought her back from the Dragon Palace.

A familiar figure in the visual arts, the turtle also appears in classical literature, notably in a number of novels written under the Yi dynasty, such as "The Story of the Hare and the Turtle" *(Pyol-chubu-ion),* "The Voyage to the Dragon Palace" *(Kumeo Sin-hwa),* and "The Story of Sim-Ch'ong".

Turtles appear comparatively rarely in classical Oriental painting but although painting in general seems less important than other forms of "turtle art", it is invaluable in helping to explain the symbolic background, for each piece of turtle symbolism is explicitly depicted. In Korean folk painting benevolent turtles are shown carrying rabbits on their shoulders back to the Dragon Palace and feature in paintings of *Sa-Ryong,* the four sacred animals of good omen.

The sacred book-carrying turtle is often shown in the character design paintings of the Yi dynasty, referring to the legend of the turtle which bore the knowledge of the eight trigrams, while the turtle as guardian of one of the four cardinal directions is found in the tomb murals of the Koguryo dynasty. The latter symbolism seems to have died out later as there is little trace of such painting under the Yi dynasty, and the turtle came to appear most commonly as one of the ten longevity symbols.

However, stone carving is the branch of Korean art in which turtles are most prolific, especially in the form known as Kwi-Bu, turtle-shaped stones which form the base of monuments and buildings. Over a hundred of these turtle stones, dating from the Unified Silla period to the Yi dynasty, have survived at the graves of kings and at Buddhist temples. The base stone is combined with a dragon cap stone which completes the monument, and the turtle in this art form may be either the turtle of good omen, the guardian spirit or the symbol of longevity.

Some turtle stones (like the Sa-Ryong paintings) feature strange, stylized turtles with dragon's heads. Their significance can only be understood in reference to the iconography of other sacred animals with a monster's head such as the *chi-lin* (unicorn), the *hai-tai,* the lion, the white tiger and the dragon. Each of these figures is portrayed as a real animal such as a deer, a lion, a tiger or a snake, but is equipped with the monster-mask known as the *Pyok-sa,* whose purpose is to repel evil.

Although this type of turtle art originated in China under the Han dynasty and was later introduced into Korea during the period of the Three Kingdoms, many Orientalists claim that it was in Korea that it attained maturity with the creation of masterpieces such as those found in the Silla monument of King Muyol.

The influence of the turtle in Korean life and history extends much further than art and folklore. In the 16th century Admiral Yi Sun-sin designed a "turtle ship" which is often considered to be the first ironclad battleship in the world. The turtle motif was found on a variety of everyday tools and utensils; it adorned the foundations of buildings, seals, stones in gardens, water tubs and stone containers. Nearly a hundred magnificent "turtle bottles" made for royal officials out of soapstone or bronze have survived from the Yi dynasty, and together with gunpowder boxes, door locks and fortune-tellers' magic boxes, bear witness to the cherished place which this reptile came to hold in Korean life as a symbol of longevity and good fortune and as a guardian against evil.

■ **Zo Za-Yong**

Photo © Zo Za-Yong, Emille Museum, Seoul

The Taoist Immortal and the turtle, symbol of longevity, as portrayed in an ink painting by an unknown 18th-century artist.

Paintings magic and mundane

Folk art with a wealth of significance for everyday life

by Zo Za-Yong

THE rediscovery and re-evaluation of a great wealth of long-forgotten Korean folk paintings has been one of the most exciting cultural events of the past decade. These popular works of art, often treasured family heirlooms, have remained hidden away in private houses and it was not until some ten years ago that they started to be collected and systematically studied.

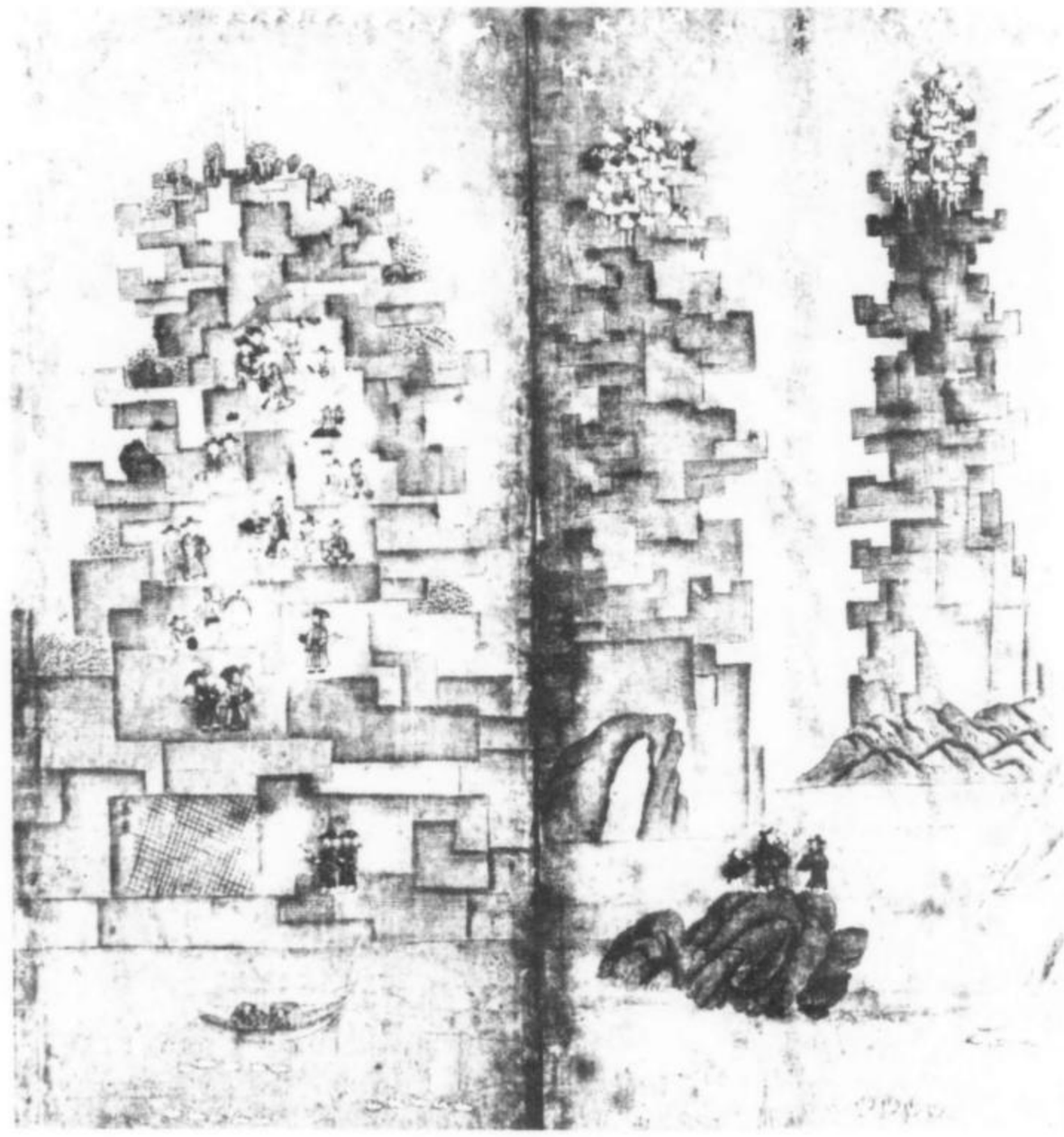
These newly-discovered treasures have come to be classified rather ambiguously as "folk painting", but only if we examine the historical position of the artist in ancient Korean society does this classification begin to make sense.

Painting in Korea has always been closely associated with Confucian scholarship. A good Confucian had to excel in three different skills: poetry, calligraphy and painting. Poetry was the most important skill, while calligraphy was valued as an art form. Of the three skills painting was the least appreciated. Korean scholars regarded painting as a scholarly hobby and tended to look down on the professional painters attached to the *Tohwa-so,* or Office of Art, who were recruited from the *Chungin,* or artisan class.

Conventionally, Korean painting has been grouped into two major categories—pure painting and "functional" painting. Yet although there is now no such thing as a really pure, academic form of painting, any more than there exists an exclusively "functional" painting, this classification still often dominates the thinking of artists, art historians, connoisseurs and art dealers. The traditional Confucian scholar's scorn of popular paintings that were colourful and contained folk motifs was at the basis of this idea that unsigned "functional" paintings were a low form of art.

"Functional" in this context has a very wide sense. Among "functional" paintings were included, for example, those brought out in accordance with old Korean custom for specific seasonal festivals, such as New Year's Day, the first day of spring, and the fifth day of the fifth month. Old records as well as those paintings that remain indicate that most of these paintings included longevity symbols, happiness symbols and

The twelve thousand needle-point peaks of the Diamond Mountains, a vast massif running downwards from the north central part of the Korean peninsula to the east coast and one of the three sacred mountain ranges of Korea, have inspired a great variety of landscape paintings and drawings. Left, a sketch in which the peaks seem as though carved from a piece of crystal encircled with a Chinese ideogram. Below, this painting of the mountains where they reach the sea could almost be a view of a modern seaside town. Opposite page, detail from an 18th-century screen over ten metres long. The serried ranks of pinnacles seem like a ghostly congregation of monks and priests engaged in some mysterious sacred rite.



Photos © Zo Za-Yong, Emille Museum, Seoul

guardian images to ward off evil spirits and in this sense fulfilled a "useful", even "magical" function.

Thus the old Confucian-oriented Korean scholars classified virtually everything outside the elitist areas of calligraphy and literati or Zen painting, created for the intellectual diversion of the scholar class, as folk painting. Yet a great deal of this painting was not folk painting at all in the sense that this term is used elsewhere in the world, i.e. meaning a simple form of painting executed by amateurs and with no reference to the rules of any school of art.

Korean folk painting therefore, developed as an art of an entire nation, of all classes, directly related to a particular life style; and although in many cases we have no idea whatever of the individual names of these painters, we are at least aware of the type of people in each group. They ranged from wandering craftsmen to court painters, all of whom participated in this popular art.

The first group consisted of painters known as "passing guests", wanderers who travelled from one village to another producing domestic paintings at individual households. Of course most of them were naive peasant craftsmen, but some skilled artists were found among them, usually those who had failed to become court painters.

The second group was made up of painter-monks. Talented monks who received severe training from a master usually became professional painters and engaged in producing various Buddhist ritual paintings for temples. Those who failed to survive the severe regimen often turned to the life of wandering painter-monks, travelling from one temple to another and earning their living by painting murals for temple walls.

The third group consisted of the court painters. As far as social position is concerned, a court painter was the highest rank obtainable in Korea for an artist. It is often thought that the works of these men were only in the classical style, but they were also hired to decorate palaces and to provide ornamental designs.

Folk paintings were to be found in the royal court, Buddhist temples, Shaman shrines, *Kisaeng* drinking houses, altars and private houses. Some themes were reserved exclusively for the court while others were used only in temples, shrines and upon altars. The remainder were used by ordinary folk to decorate their homes and to enrich everyday life.

In a Korean home certain works of art can be installed permanently while others are brought out only during certain seasons or on special occasions. A few themes are suitable anywhere within the house, but others are intended to be placed in one particular location in orde· to produce felicitous results. For example, the door painting of a tiger to repel evil belongs to the front entrance, while a painting or print of a dog is intended for a storage room door. Screens with representations of flowers and birds or babies belong to bedroom walls.

Korean folk painting is often classified in terms of its relationship to the concepts of Confucianism, Taoism, Buddhism or Shamanism. This classification is valid when there is a clear religious identification: paintings on the theme of Buddha's Life are Buddhist painting, and of the Taoist Immortals are Taoist painting; illustrations of Confucian teaching are Confucian painting and of the Mountain Spirit are Shaman painting. However, at times these religious motifs are so complexly interwoven that it becomes impossible to determine to which specific religion each belongs. The end result of this is a general impression that in Korea there is Taoist Buddhism, Buddhistic Shamanism and Taoistic Shamanism, and that the thought behind religious ritual painting is actually the Shamanistic folk content of each religion rather than its academic aspect.

Analysis of Korean domestic paintings manifesting various symbols reveals a common denominator which interlocks these religious ideas tightly together. This common denominator is an inborn desire for long and happy life and protection against evil spirits. Thus these works of art are no more than the Korean expression of a universal aspiration. Though there are a certain number of paintings which may be grouped as ethnographic, such ethnic themes do not characterize Korean folk painting as much as the universal themes.

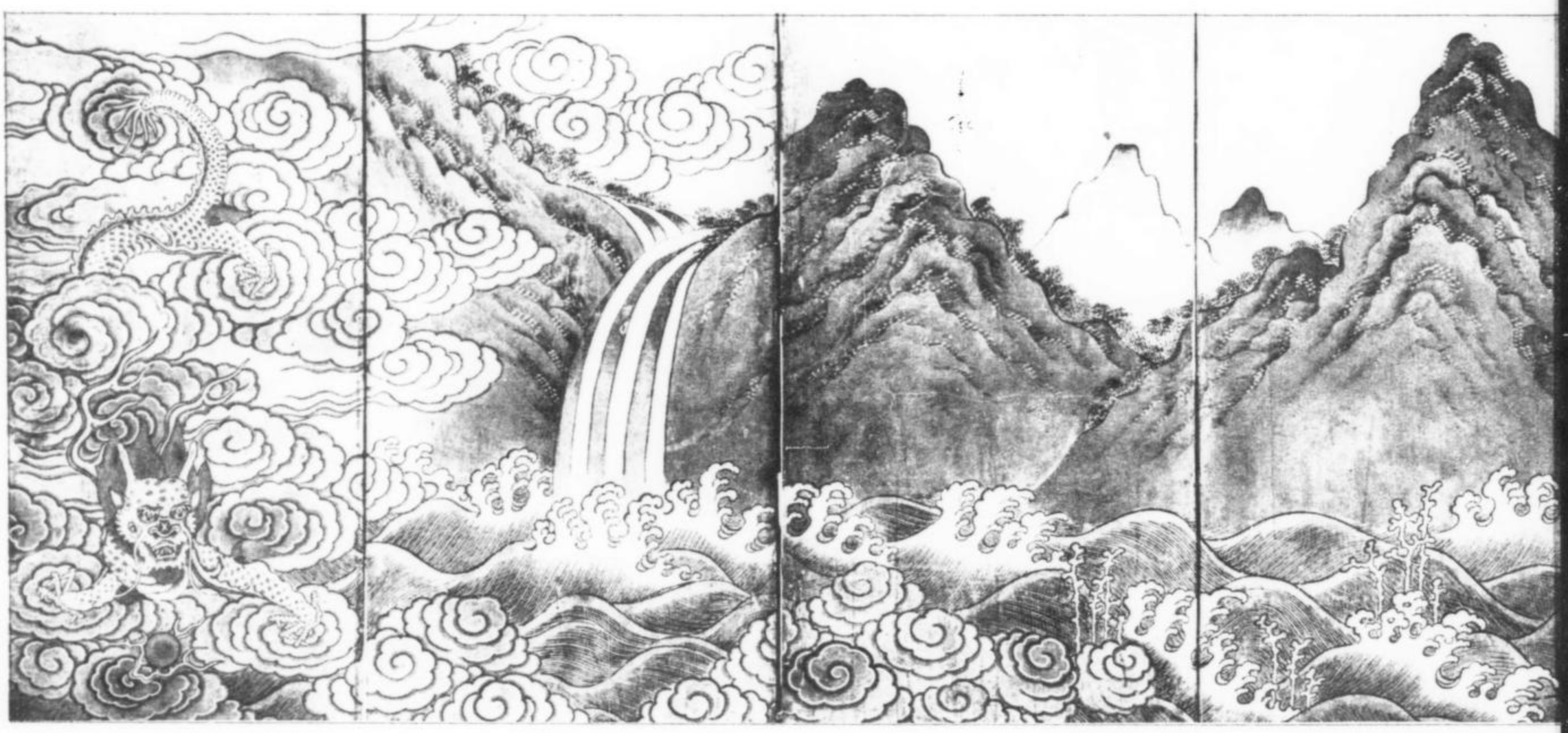
A striking characteristic of this painting is the extent of stylization, which leads to abstract art, expressing man's dreams, imagination, symbolism, love, humour, satire and sense of fantasy. There is no attempt at realism and there is a filling in of space in contrast with the aesthetics of open space typical of classic Oriental painting.

The second aspect is animism, which is positively expressed in all kinds of animal, rock and tree paintings and which is really a reflection of Shamanistic animism. A third style, usually referred to as naive style, is developed by a combination of abstraction and animism which portrays a genuine, childlike world where a man's heart is more important than his name.

The whole range of these paintings deals with the life of the masses, often in a most unconventional and unorthodox manner. Dating back to ancient Korea, some of these paintings are serious and others are frivolous; some deal with imaginary things and others with real objects; some have religious overtones; some of them were done by expert hands such as those of professional court painters and others by utter amateurs.

Whatever the subjects and whoever the artists, there is one thing common to them all—they are uniquely Korean and inseparably attached to the actual lives of the people of the time.

■ **Zo Za-Yong**

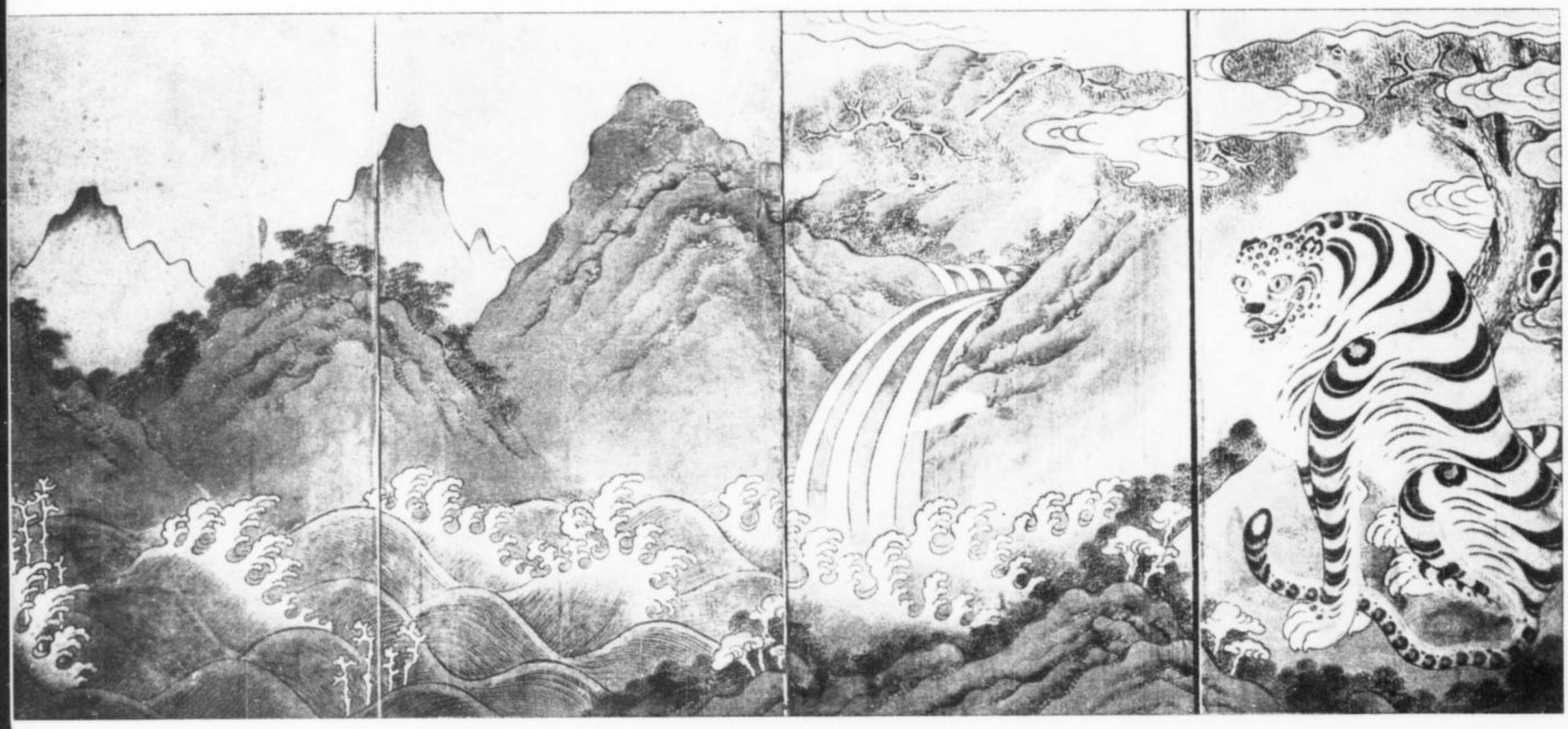


The imposing majesty of the mountains of Korea gave rise to popular belief in the existence of a Spirit of the Mountain. Among the various ways in which artists depicted the Spirit the most frequent was in the guise of an amiable old gentleman with his arm resting affectionately on his friend the White Tiger, as in this 18th-century painting on hemp.

Photo © Zo Za-Yong, Emille Museum, Seoul

Cascading waterfalls have long been a favourite theme in oriental art. The words of the Chinese philosopher Lao-tzu: "Water is the weakest and most gentle of things, yet it overcomes the strongest and the most resistant", seem to be epitomized in paintings below in which the power of the dragon, the Spirit of Water, contrasts with the outward tranquillity of flowing mountain rivers.

Photos © Zo Za-Yong, Emille Museum, Seoul



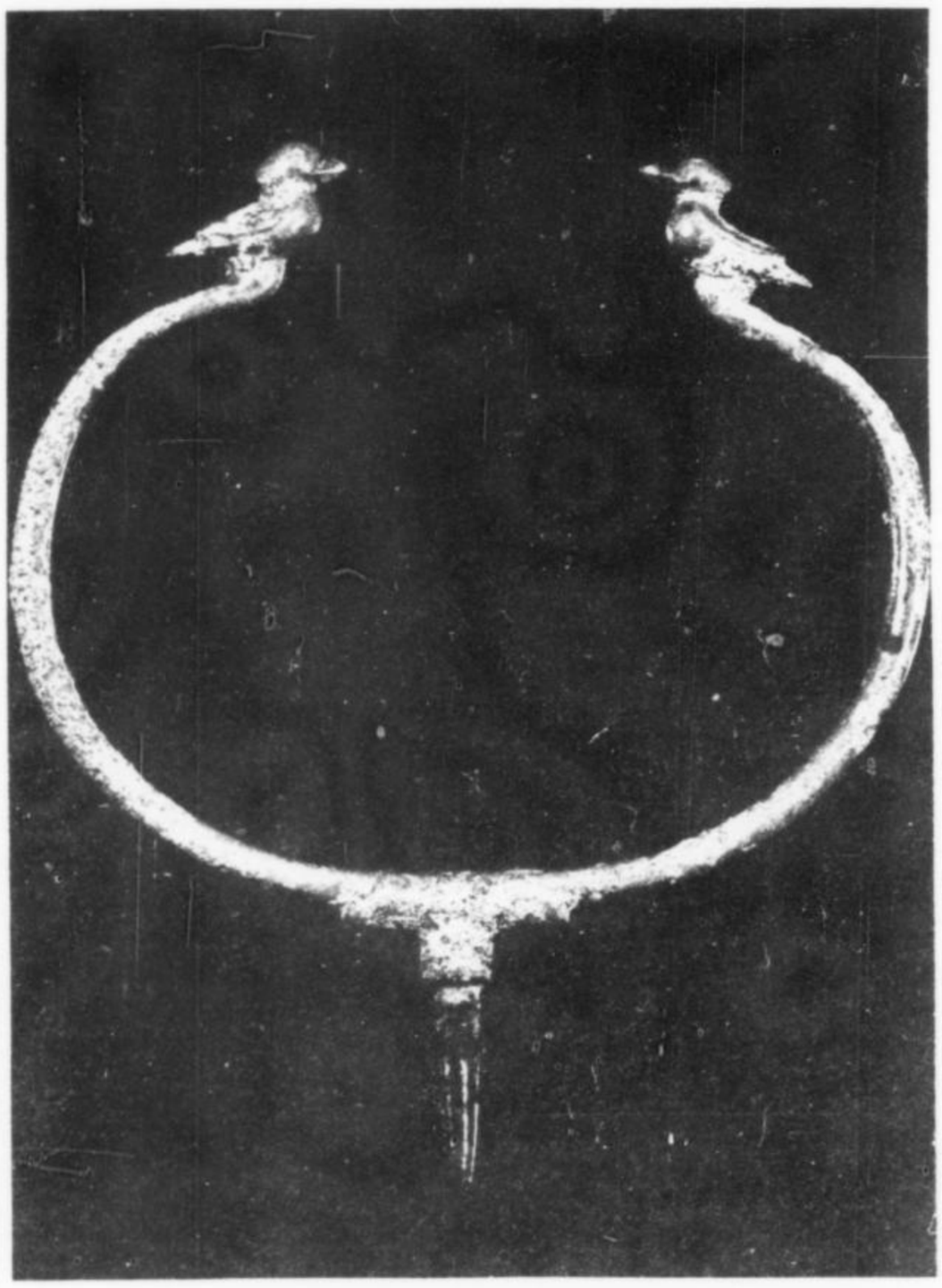


Photo © Dong-wha Publishing Co., Seoul - National Museum of Korea

Ancient bronze ornament from a wooden staff used by a shaman to lure spirits down to earth. Birds played a major role in shamanistic ritual and symbolism and shamans donned wings or feathers to equip themselves for their journey to the spirit world.

An aureole of legend on a golden crown

by Li Ogg

ON 24 September 1921, a group of children were playing on a patch of waste ground in Kyongju, once the capital of the ancient kingdom of Silla which was founded in the first century B.C. and later held sway over most of the Korean peninsula. Suddenly the children noticed a handful of glass beads lying on the ground. Unwittingly they had stumbled across the site of a burial mound, once imposingly high but by then considerably flattened, which contained the tomb of a king who had reigned sometime around the beginning of the sixth century A.D. Excavations brought to light some thirty thousand glass beads and a fabu-

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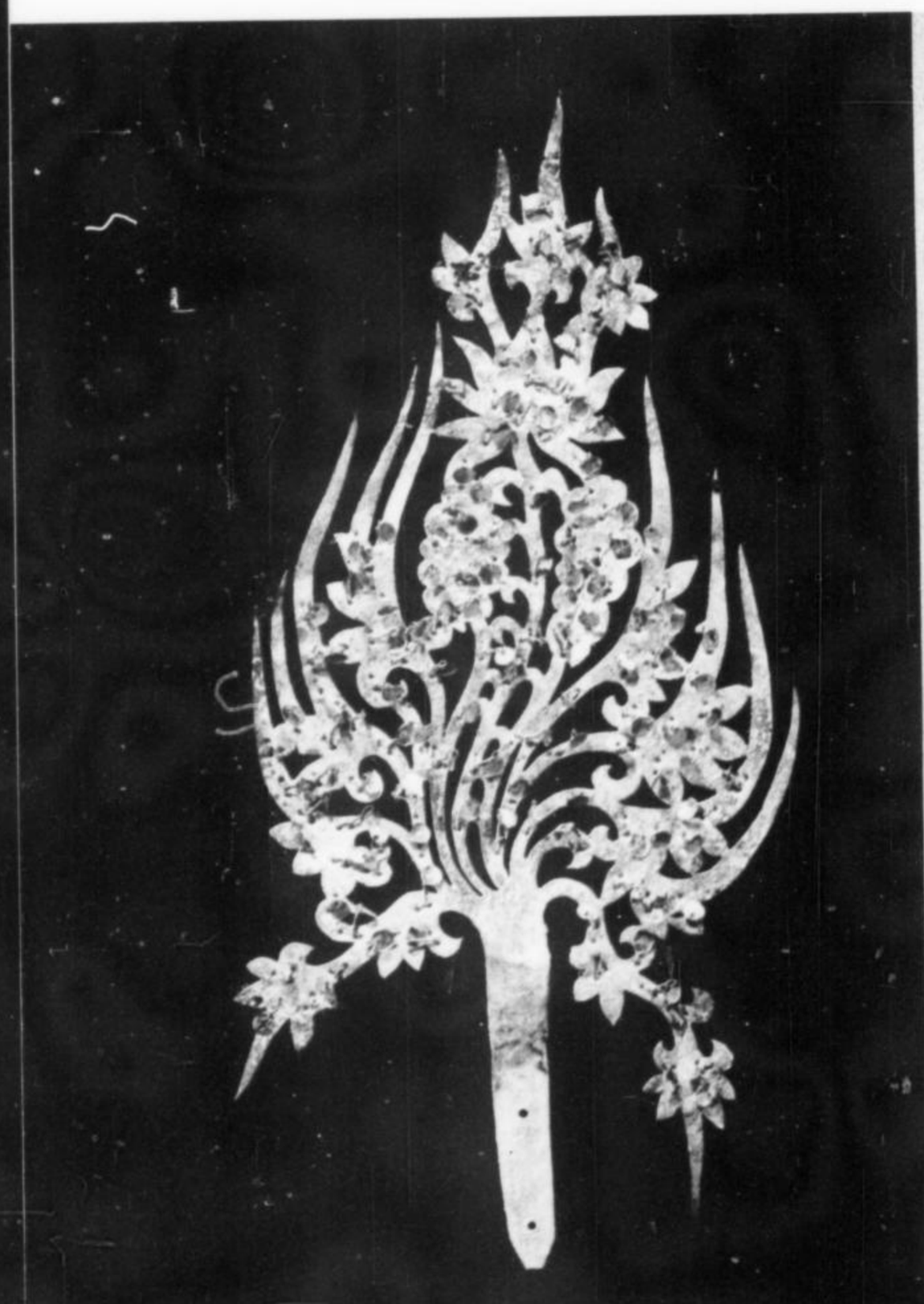
LI OGG *is assistant professor at the University of Paris VII and director of the Centre of Korean Studies at the Collège de France. His* Histoire de la Corée *was published in 1969 in the* Que Sais-je ? *series by Presses Universitaires de France.*

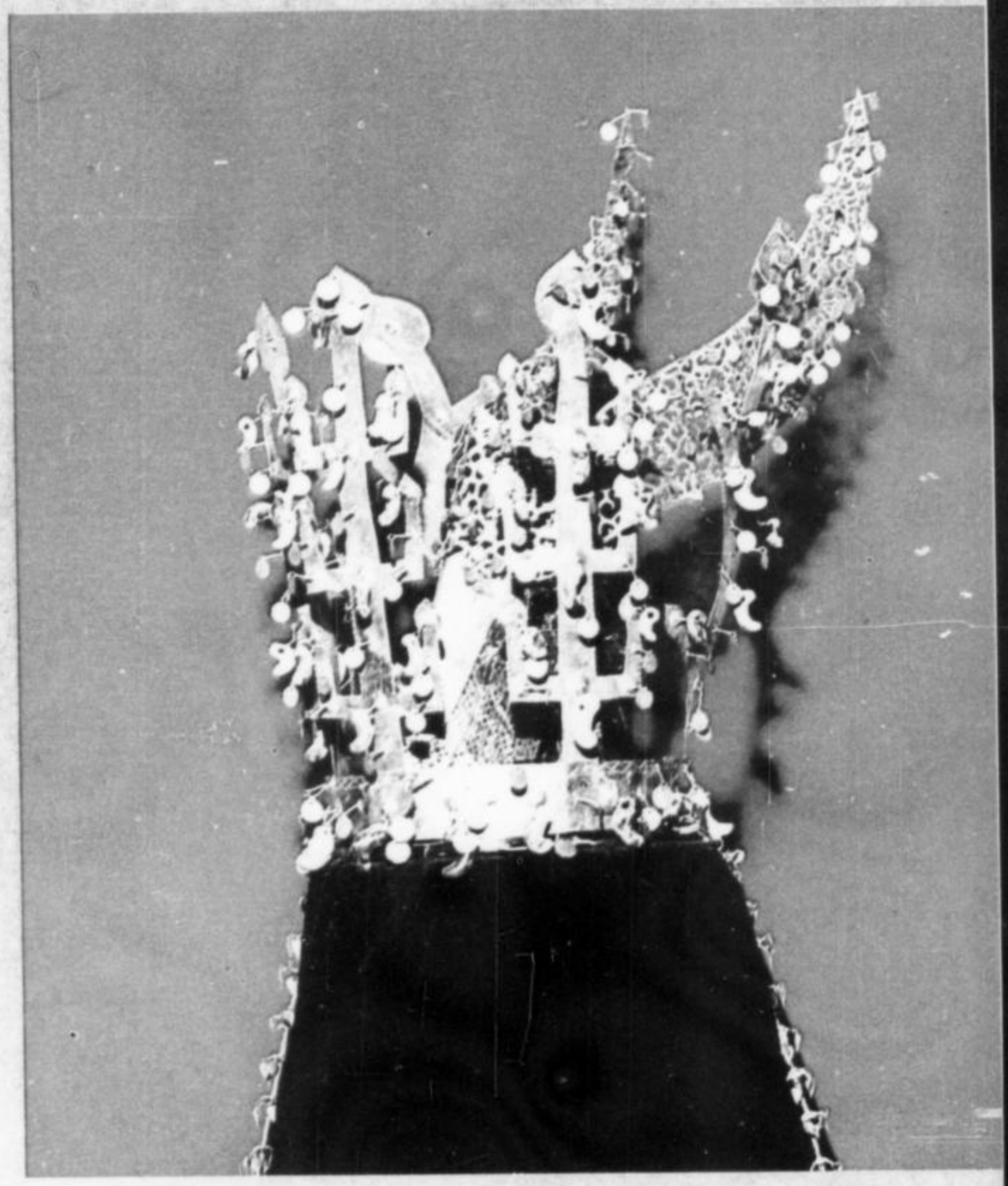
Colour page

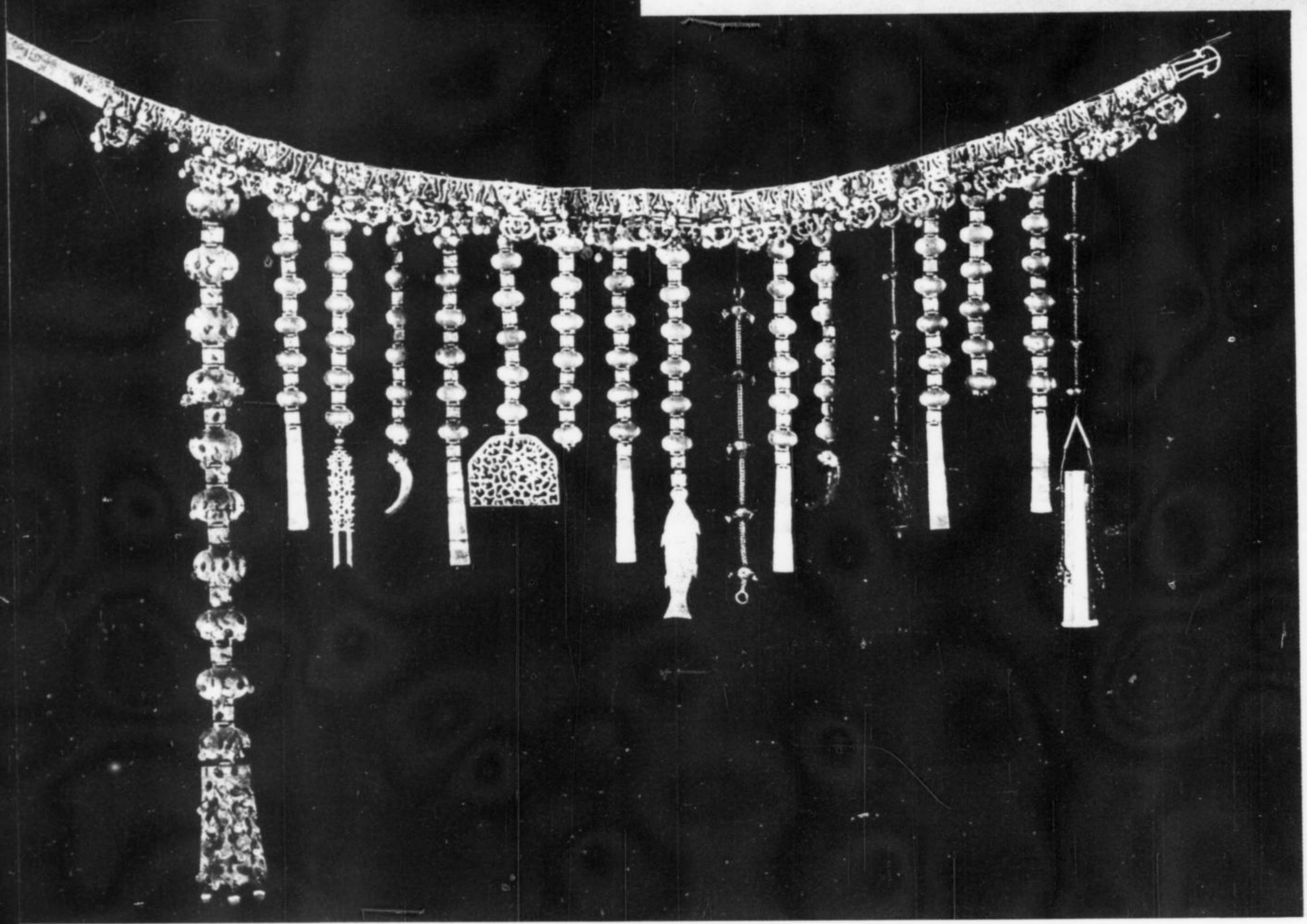
The luck of the leaping carp

For Koreans a carp leaping from the waves was a harbinger of good fortune. It might herald the birth of a son or presage some great success in life. The carp was thought to live for a hundred years and in old age to turn into a benevolent dragon which repelled evil spirits. Leaping carp shown here is a detail from a painting on rice paper (55 cm. by 95 cm.) by an anonymous 18th-century Korean artist.

Photo © Zo Za-Yong, Emille Museum, Seoul







Colour page

Magnificent gold crown bedecked with comma-shaped jewels of green jade (top right) was once worn by a 6th-century ruler of the Silla kingdom in Korea. Discovered at Kyongju, the ancient capital of Silla, it incorporates a wealth of symbolism (see article this page). Also found in the "Gold Crown Tomb" was the elaborate gold belt (below) made of 39 openwork plates and 17 pendants. It is embellished with motifs of a type then current in China where such belts were traditionally hung with pendants representing objects found in every functionary's saddlebag, such as a sword, a knife, a whetstone and a flint. Note the fish-shaped pendant of a kind which in T'ang China indicated its wearer's rank. The use of this type of belt may have originated in ancient times among the nomads of the northern steppes. Top left, gold ornament dating from the early 6th century. It was discovered in the tomb of King Muryong (see photo page 25) at Kongju capital of the kingdom of Paekche.

Photos © Korean Overseas Information Service, Seoul
Photo © Han Sok-hong, Seoul

Photo © Dong-wha Publishing Co., Seoul - Museum of the University of Taegu

These earthenware ducks with human feet date from Ancient Silla times. Birds acted as intermediaries between the shaman and the spirit world.

lous hoard of jewellery. The most spectacular find was an exquisite golden crown which in spite of its extreme fragility had survived intact. As a consequence of this discovery the tomb became known as The Tomb of the Golden Crown.

The crown's design was rich in symbolism which, when deciphered, provided precious information about the shadowy myths and legends then current in east Asia and about the religious vision of the universe which prevailed among the ancient Koreans.

The crown takes us back to the age of the shamans, who professed beliefs which had reached Korea from the Siberian Altai mountains and practised magical nature-cults based on an obscure complicity between men and animals. For the hunters of ancient Korea, the animal was a tutelary being. To slay a beast was to make a sacrifice to the celestial being which would allow the hunter to arrogate for himself the dead animal's physical and spiritual attributes. Hunting rituals and legends like the story of Chumong, the founder of the kingdom of Koguryo, strikingly illustrate this complicity between men and animals.

Legend has it that a daughter of the Lord of the River, a water-deity, was out walking when she met Hämosu, the son of the Celestial Emperor and became friendly with him. Later she conceived and brought forth an egg. The egg was thrown first to a dog and then to a pig, but neither of them would touch it. Then it was left on the highway, where the horses and oxen gave it a wide berth. Next it was placed in a field, where the birds protected it with their wings. Attempts to crack it proved vain. From the egg emerged handsome Chumong.

Animals were thus linked to men by deep undercurrents of comprehension which brought into being a whole language of animal symbolism, of which the Golden Crown of Kyongju (see colour photo opposite) is a glittering and instructive expression.

For the ancient Koreans, the universe consisted of three worlds: heaven, earth and the nether region—the kingdom of the dead which was also often known as the world of water. A shaman had to "dominate" these three worlds, often by changing into different beings, as illustrated in the story of how Chumong's father sought the hand of the Lord of the River's daughter.

To put the suitor to the test, so the story goes, the Lord of the River transformed himself into a carp; straightaway Chumong's father turned himself into an otter and caught the carp. Next the Lord of the River assumed the form of a stag, but this time his antagonist turned into a wolf and hunted him down. Finally the Lord of the River changed into a pheasant, whereupon Chumong's father became a falcon. By this time the Lord of the River knew for sure that he was dealing with the Celestial Emperor's son. He consented to the match and decreed that the marriage should take place.

Photo © Korean Overseas Information Service, Museum of Puyo

3

2

Photo © Aurora Publishers, Leningrad

Mounted archers and their dogs are shown in hot pursuit of stags, deer and tigers in this wall painting from the Tomb of the Dancing Figures, on the T'ung-kou plain, south Manchuria. For ancient Koreans hunting was imbued with ritual reflecting the unity of the world of humans and the animal world.

Photo © Kim Tae-byok, Seoul

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1

According to ancient shamanistic beliefs, bird-spirits hold sway in the Upper World, while the nether world is ruled by mammals. (1) Drawing of a Tungus shaman whose reindeer-costume enabled him to descend to the Nether World. By doffing his head-dress he could also rise to the Upper World. Similar beliefs are found in Siberian mythology. (2) Fabulous beast combining features of deer, eagle and tiger was found tattooed on the embalmed body of a chief buried at Pazyryk in Siberia (5th or 4th century B.C.). (3) Ornament in openwork gold leaf adorned the crown of a Paekche queen. It was unearthed in the tomb of King Muryong at Kongju.

The Golden Crown of Kyongju, like the legend of Chumong's birth, is dominated by two wings. They are attached to the pointed cap within the crown. They afford protection but they also symbolize the ascent to heaven. A piece of headgear discovered at Chunghwa, in the land Chumong once ruled, incorporates a mysterious three-footed bird which has the same religious significance. But the significance of bird-symbolism on ancient Korean crowns does not end here. The *Wei Che,* a Chinese text from the third century A.D., recounts how among the Han of southern Korea the dead were made to "fly" using birds' feathers. Mongolian shamans felt themselves transformed into flying creatures as soon as they put wings on their backs. Shamanistic priests in Siberia and Manchuria also decked out their costumes and headdresses with birds' feathers. A gold and bronze alloy crown discovered at Yoshino in Japan bears traces which prove that it was once adorned with wings, thus suggesting that this bird-cult may have reached as far as Japan.

For the ancient Koreans, birds' wings were not the only means of ascending to heaven. A flying horse, like the eight-hoofed steed painted on birch bark (see photo page 25) could also perform the task.

Were the wings which dominate the Golden Crown meant to symbolize those of a real bird or of some mythical flying beast? Might they not have been the wings of a cock, the bird whose role in Silla mythology was so important that the kingdom was known as the "Land of the Cock and the Forest"? In the *Samguk Yusa,* a thirteenth century Korean text, it is also recorded that the people of Silla venerated the cock as a god and used its wings for ornamental purposes.

In ancient Korean beliefs the cock symbolized the sun and was the counterpart of the mythical Stone Age reindeer with golden antlers which flew across Siberia from east to west.

In Korea the stag, another religious symbol, corresponds to the Siberian reindeer, and attached to the circlet of gold which forms the base of the Golden Crown are two antler-shaped projections. The antler motif can also be discerned in crowns from the kingdoms of Koguryo and Paekche, although some believe that these designs are simply floral decorations reflecting the influence of Chinese art. The people of Paekche, Silla's western neighbours, believed that a stag taken during a royal hunt was *sin* or divine, while a Chinese text describes how the aristocracy of Koguryo, the State which dominated the north of the Korean peninsula during the period of the Three Kingdoms, attached gold and silver "ears" to their helmets. It is possible that the word *ears* might have been a copyist's error, since the Chinese characters for "ears" are

similar to those which signify "the horns of a stag". This in turn calls to mind the iron horns with which Tungu shamans adorned their headgear, thus evoking the antlers of a stag. Shamanistic headgear was similarly adorned with iron reindeer antlers among the Siberians of eastern Ket.

Other, equally venerable animals also figure on the Golden Crown, from the base of which hang a large number of hook- or claw-shaped pieces of jade. They recall the bear claws, some real, some made of iron, which adorned the boots of Tungu shamans, and probably represent those of wild beasts such as the tiger, which was worshipped by the people of Ye, north of Silla.

The plant world appears on the Golden Crown in the form of tiny, metal-shaped plaques. The best example of a floral motif on an ancient Korean crown, however, is the corolla featured on the crown of a Paekche queen (see photo page 48). An ancient document also describes how the king and aristocracy of Paekche wore crowns adorned with gold and silver flowers.

As for the nether world, it is depicted on the crown by the zigzag pattern, evoking waves, which runs along the circlet.

At the front of the circlet are three tree-shaped uprights. Each one has three branches which symbolically represent the three worlds of the Korean cosmogony. The same religious symbolism is found in Japanese mythology in a head-dress made from the *Cleyera japonica* flower. In Korean cults the tree is often replaced by a post which represents the centre of the earthly world and makes it possible to communicate with heaven. Among the Siberians and the Tungu, this post was sometimes capped with birds. Ancient Chinese texts record how in the south of ancient Korea a post was planted in worship of the *kuisin* or spirits, and a bell and a kind of drum were fixed to the top.

With its green jade jewels and fluttering gold sequins, the fragile Golden Crown of Kyongju thus affords a glimpse at the beliefs of a long-vanished world.

■ **Li Ogg**

A practical approach to science

(continued from page 37)

by combining the local variant of T'ang medicine which it inherited from Silla and the pharmacological information it got directly from Sung China. Koryo established two state-run medical schools and added a specialization in medicine to the state civil service examinations which were inaugurated in 958. In this the government was following the lead of T'ang China.

The origins of Korean science can be traced back through the technical tradition of craftsmen who passed on their practical experiences and skill from generation to generation. They devoted themselves to empirically verifiable phenomena and were little concerned by theoretical explanations. The result of attaching importance to empirical research instead of theory was that technical developments did not grow out of systematic experimentation.

It was very difficult for those craftsmen, who were officials supported by their government, to have any opportunity to follow their own bent because they had to engage in practical research and manufacture dictated by government policy. In addition craftsmen were part of society's strict class system and were given little freedom of thought or movement.

Their work was made more mechanical and less creative than it might have been because of the lack of social pressures and rewards for innovation and exploration.

It was only in the seventeenth and eighteenth centuries that these traditional techniques acquired a systematic scientific basis, thanks to the advocates of *sirhak,* or practical learning, who rejected the idea of the superiority of philosophical speculation and adopted the slogan *silsa kusi* (verification of truth on the basis of factual studies) thus opening the way to the introduction of Western science and the initiation of a scientific reformation.

■ **Jeon Sang-woon**

Photo © Korean Overseas Information Service, Seoul

Ornamental plaque from an ancient Korean door lock. The inscription in the inner circle means, literally, "Ten thousand years of great peace", a form of salutation roughly equivalent to "long live the king". The outer ring inscriptions are expressions of wishes for happiness, many sons, health, wealth, honours, peace and longevity.

Unesco's General Conference

THE twentieth session of Unesco's General Conference, which opened in Paris on 24 October 1978, ended its work on 28 November after approving the Organization's programme for 1979 and 1980. The Conference, which was chaired by Mr. Napoleon LeBlanc of Canada, voted a budget of $303 million to carry out the programme, an increase of six per cent compared with the budget for 1977 and 1978.

"The spirit of co-operation and the desire for consensus (...) emerge strengthened from this session of the General Conference and have even acquired greater significance", declared the Director-General of Unesco, Mr. Amadou-Mahtar M'Bow in his final address.

"There can be no doubt," Mr. M'Bow declared, "that the Declaration [on fundamental principles concerning the contribution of the mass media to strengthening peace and international understanding, promotion of human rights, and to countering racism, apartheid and incitement to war] has been a central theme of the twentieth session of the General Conference in view of the place it has occupied in the discussion. (...) The ovation with which this Declaration was adopted will without doubt remain one of the most intense and moving moments I have experienced as Unesco's Director-General (...). This happy issue is all the more remarkable because the probability of failure appeared so high. It is an illustration of the triumph of a patient desire for conciliation which never flagged".

The Director-General went on to point out that other important decisions with ethical implications had been taken and should not be forgotten, confirming as they did Unesco's mission in this sphere of human activity. He stressed the significance of the unanimous adoption of the Declaration on Race and Racial Prejudice: "For the first time in the United Nations system, and even in the history of mankind's long efforts to extirpate racism and racial prejudice, the international community will dispose of a text which, without being legally binding, represents a moral engagement covering all aspects of the problem."

Mr. M'Bow also recalled with satisfaction that the statutes of the new Intergovernmental Committee to promote the return of cultural objects to their country of origin or their restitution in case of illicit appropriation had been unanimously adopted.

The Director-General stressed that the General Conference had "shown a strong desire to see Unesco step up its action in the field of science and technology" and had also manifested "the wish of Member States to see Unesco maintain and extend the particular responsibility for science falling to it within the United Nations system on the occasion of the United Nations Conference on Science and Technology in the service of Development".

The Conference, which was attended by delegations from all Member States (whose number rose from 144 to 146 with the addition of Namibia and Dominica), including 93 Ministers for Foreign Affairs, Education, Science, Culture, or Communication, was an opportunity for a high-level expression of views on concerns in Unesco's fields of competence.

Throughout the general policy debate, it was evident, in the words of Mr. M'Bow that "the establishment of a new international economic order is one of the most important and, doubtless, most far-reaching, goals to which the Organization's activities must be directed". The discussions attested to the desire of Member States "not to limit the concept of the new order to the economic level, but to widen and deepen it with due regard for its social and cultural dimensions". Delegates were also agreed that it was up to Unesco to rectify the imbalance in the fields of knowledge and information, whose consequences are still borne by the majority of mankind. The programme to be carried out during the next two years illustrates this determination.

"Unesco is at the crossroads (...) of all the creative anxieties of our times", Mr. M'Bow said. "It seeks to be a laboratory open to all the intellectual currents converging to form a new ethic of relations between men and nations. This goal originates in the realization, as obvious as it is decisive, that the world has ceased to have a single centre, a single model for the future, and that it is seeking new paths of development and a new planetary order which takes account of the upsurge of diversity. The vital imperative for all is that this quest should be carried out through a peaceful process of reciprocal re-adaptation and of fruitful exchanges between all systems and not through confrontations based on deepened distrust."

The cultures of many countries were highlighted during the Conference through a series of exhibitions and other cultural events featuring internationally-known artists and groups from the different regions of the world.

The next session of the General Conference will meet in Belgrade in 1980. ■

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The tiger and the magpie

This tiger baring its teeth in vexation at its traditional enemy, the magpie, was painted some two hundred years ago by an anonymous Korean artist. The tiger, a familiar figure in Korean folklore, was one of four deities that guard the cardinal points of the compass, the other three being the dragon, the phoenix and the turtle. In ancient times in Korea a tiger was sometimes painted on the door of a house to ward off evil spirits, along with a dragon to bring good fortune.

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CURRENT PERIODICAL SERIES

PUBLICATION NO: 2350

TITLE: UNESCO COURIER
(Index)

VOLUME: 32 ISSUES: 1 - 11

DATE: January - December 1979

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